



Estuary 1: Norwalk

Watershed Summary

WATERSHED DESCRIPTION AND MAPS

The Norwalk Estuary (Estuary 1) covers an area of approximately 9,002 acres in the southwestern corner of Connecticut. These impaired segments are located in the western portion of Long Island Sound (LIS). Most of the impaired segments in this summary are located in the municipality of Norwalk, though one segment is located in the southwestern corner of Westport, CT.

The Norwalk Estuary includes six segments impaired for commercial shellfish and one segment impaired for recreation due to elevated bacteria levels. These segments were assessed by Connecticut Department of Energy and Environmental Protection (CT DEEP) and included in the CT 2016 303(d) list of impaired waterbodies. Some segments in the estuary are currently unassessed as of the writing of this document. This does not mean there are no potential issues on these segments, but indicates a lack of current data to evaluate the segments as part of the assessment process. An excerpt of the Integrated Water Quality Report is included in Table 1 (CTDEEP, 2016).

Impaired Segments

Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach) (CT-W1_013-SB) is part of the eastern embayment of Norwalk Harbor from Gregory Point to Fitch Point, and includes Marvin Beach (Figure 1).

Segment 7: LIS WB Inner Norwalk Harbor (CT-W1_012-SB) is from the mouth of Norwalk Harbor to the saltwater limit at Wall Street crossing. These 2 impaired segments of the Norwalk Estuary have a water quality classification of SB. Designated uses include commercial shellfish harvesting, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. Segment 1 (CT-W1_013-SB) of the estuary is impaired due to elevated bacteria concentrations, affecting the designated use of recreation. Segment 1 (CT-W1_013-SB) is also a designated beach (Marvin Beach) and the specific recreation impairment is for designated swimming and other water contact related activities.

Impaired Segment Facts

Impaired Segments, Classifications, and Areas (square miles):

Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach) (CT-W1_013-SB); SB; 0.37

Segment 2: LIS WB Shore - Canfield Island (CT-W2_011); SA; 0.43

Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012); SA; 0.26

Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013), SA; 0.37

Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014); SA; 0.42

Segment 6: LIS WB Midshore – Norwalk Islands (CT-W3_008-I); SA; 5.94

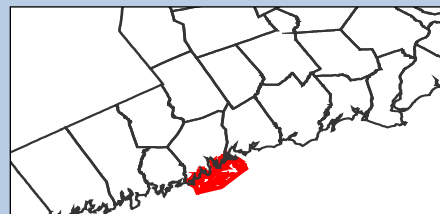
Segment 7: LIS WB Inner Norwalk Harbor (CT-W1_012-SB); SB; 0.942

Municipalities: Norwalk and Westport

Designated Use Impairments: Shellfish, Recreation (W1_013-SB & W1_012)

MS4 Applicable? Yes

Applicable Season: Recreation Season (May 1 to September 30) Year-Round for Shellfish Uses



Segment 7 (CT-W1_012-SB) is impaired for the designated uses of recreation and commercial shellfishing due to the presence of one Combined Sewer Overflow (CSO). We do not have any Enterococci monitoring data at this time to assess the recreation impairment so the remainder of the TMDL will focus on the impairment of commercial shellfishing. Fecal coliform data shows this area is meeting the bacteria requirements for commercial shellfishing however, there remains an administrative closure. This permitted and treated combination of stormwater and domestic sewage is located at the South Smith Street Waste Water Treatment Plant (WWTP). All wet weather flows over 30 MGD receive full preliminary treatment, screening and grit removal as well as micro drum screening and chlorination.

Segments 2 – 5 extend from the shoreline to approximately 1000 feet offshore in Westport and Norwalk, CT. Segment 2: LIS WB Shore – Canfield Island (CT-W2_011) is located in Westport just west of Canfield Island to the Saugatuck Shores area and includes Canfield Island, Saugatuck Shores, and Seymour Point. Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) is located in Norwalk from the midpoint of outer Norwalk Harbor to just west of the Canfield Island area and includes Calf Pasture Beach, Shady Beach, and Calf Pasture Point. Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013) is located in Norwalk from the midpoint of outer Norwalk Harbor to just west of Hoyt Island and includes Hickory Bluff Beach, Hoyt Island, and Keyser Point. Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014) is located in Norwalk from just west of Hoyt Island to Norton Point and includes Rowayton Beach, Bell Island, and Wilson Point (Figure 1).

Segment 6: LIS WB-Midshore – Norwalk Islands (CT-W3_008-I) in LIS begins approximately 1000 feet offshore, beyond Segments 2 – 5, from Norton Point to Seymour Point and includes the entire Norwalk Islands area. The segment continues out just beyond Sheffield Island to Cockenoe Island (Figure 1).

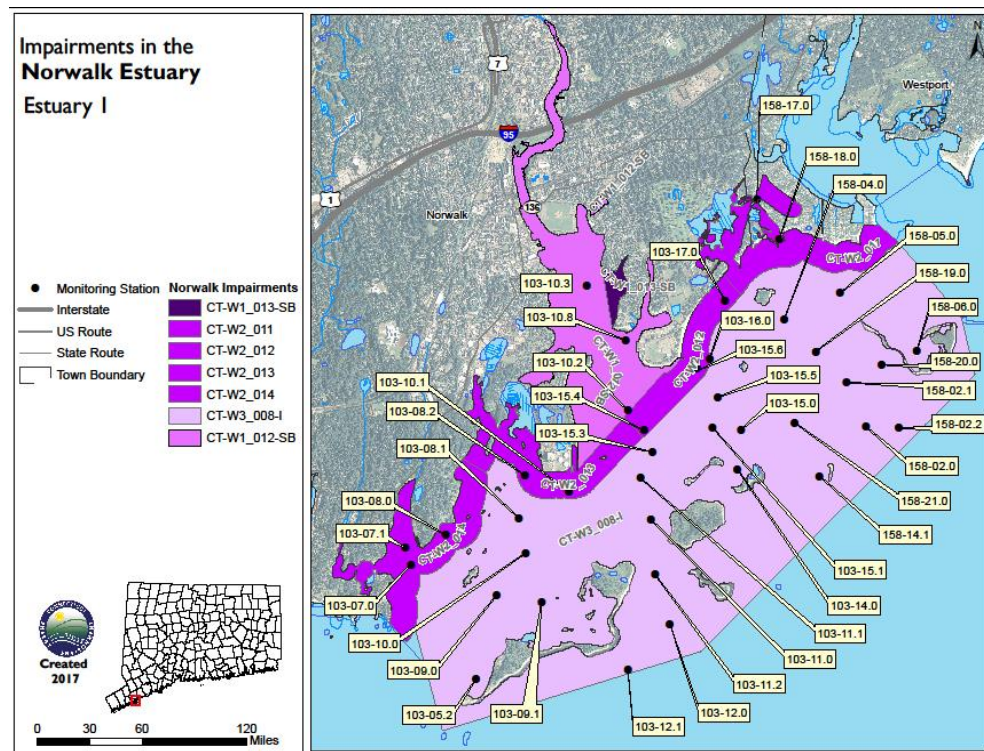
These impaired segments (Segments 2 – 6) of the Norwalk Estuary have a water quality classification of SA. Designated uses include shellfish harvesting for direct human consumption, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. These segments of the estuary are impaired due to elevated bacteria concentrations, affecting the designated use of shellfishing.

Table 1: Impaired segments in the Norwalk Estuary from the Connecticut 2016 Integrated Water Quality Report

Waterbody ID	Waterbody Name	Location	Square Miles	Marine Aquatic Life	Recreation	Direct Shellfish	Commercial Shellfish	Fish Consumption
CT-W1_012-SB	LIS WB Inner - Norwalk Harbor, Norwalk	Western portion of LIS, Inner Estuary, from SA/SB water quality line at mouth of Norwalk Harbor (Calf Pasture Point), US to saltwater limit at Wall Street Crossing (EXCLUDES eastern cove of Marvin Beach), Norwalk.	0.94	NOT	NOT	////	NOT*	FULL
CT-W1_013-SB	LIS WB Inner - Norwalk Harbor (Marvin Beach), Norwalk	Western portion of LIS, Inner Estuary, eastern embayment of Norwalk Harbor, from Gregory Point to Fitch Point into shore (includes Marvin Beach), Norwalk.	0.04	NOT	NOT	////	FULL	FULL
CT-W2_011	LIS WB Shore - Canfield Island, Westport	Western portion of LIS from just west of Canfield Island to Saugatuck Shores area (includes Canfield Island, Saugatuck Shores, Seymour Point) out approximately 1000 ft offshore, Westport.	0.43	U	U	NOT	////	FULL
CT-W2_012	LIS WB Shore - Outer Norwalk Harbor(East), Norwalk	Western portion of LIS from midpoint of outer Norwalk Harbor to just west of Canfield Island area (includes Calf Pasture Beach, Shady Beach, Calf Pasture Point) out approximately 1000 ft offshore, Norwalk.	0.26	NOT	FULL	NOT	////	FULL
CT-W2_013	LIS WB Shore - Outer Norwalk Harbor, Norwalk	Western portion of LIS from just west of Hoyt Island to midpoint of outer Norwalk Harbor (includes Hickory Bluff Beach, Hoyt Island, Keyser Point) out approximately 1000 ft offshore, Norwalk.	0.37	NOT	FULL	NOT	////	FULL

Waterbody ID	Waterbody Name	Location	Square Miles	Marine Aquatic Life	Recreation	Direct Shellfish	Commercial Shellfish	Fish Consumption
CT-W2_014	LIS WB Shore - Wilson Cove, Farm Creek, Norwalk	Western portion of LIS from Norton Point to just west of Hoyt Island (includes Rowayton Beach, Bell Island, Wilson Point) out approximately 1000 ft offshore, Norwalk.	0.42	U	FULL	NOT	///	FULL
CT-W3_007	LIS WB Midshore - Offshore Norwalk Islands, Norwalk	Western portion of LIS from line just beyond cluster of Norwalk Islands (Sheffield Island to Cockenoe Island area), out to 50 ft contour, Norwalk.	5.66	NOT	U	FULL	///	FULL
CT-W3_008-I	LIS WB Midshore - Norwalk Islands, Norwalk	Western portion of LIS from approximately 1000 ft offshore (Norton Point to Seymour Point, includes all Norwalk Islands area), out to line just beyond Sheffield Island to Cockenoe Island, Norwalk.	5.94	NOT	U	NOT	///	FULL
Shaded cells indicate segments addressed in this TMDL Bold text indicates recreation impairment addressed in this TMDL *Bacteria data through 2011 shows attainment FULL = Designated Use Fully Supported NOT = Designated Use Not Supported U = Unassessed /// = Not Applicable to Segment								

Figure 1: GIS map featuring general location for impaired segments in the Norwalk Estuary



Shellfish Bed Classifications, Closures, and Lease Locations

The Connecticut Department of Agriculture/Bureau of Aquaculture (CT DA/BA) is responsible for regulating shellfish harvesting (www.ct.gov/doag/cwp/view.asp?a=1369&Q=259170). A shellfish growing area is defined by CT DA/BA as any area that supports or could support the growth and/or propagation of molluscan shellstock. Shellfish are defined by CT DA/BA as oysters, clams, mussels, and scallops, either shucked or in the shell, fresh or frozen, whole or in part. All shellfish growing areas are classified by CT DA/BA in accordance with the Interstate Shellfish Sanitation Conference (ISSC) National Shellfish Sanitation Program Model Ordinance (NSSP-MO) and CT General Statutes Chapter 491, §26-192e. These classifications, summarized below, are established to minimize health risks and may restrict the take and use of shellfish from some areas. They are based on fecal coliform bacteria standards as provided in the NSSP-MO (Interstate Shellfish Sanitation Conference, 2007). Any shellfish area, regardless of classification, may be temporarily closed to all activities when a potential public health emergency exists as a result of a storm event, flooding, sewage, chemical, or petroleum discharges, or a hazardous algal bloom.

Shellfish harvesting has been divided into two designated uses as specified in the Connecticut Water Quality Standards (WQS): shellfish harvesting suitable for direct human consumption (Class SA waters), and shellfish harvesting suitable for commercial operations requiring depuration or relay (Class SB waters). The impaired segments in the Norwalk Estuary include both Class SA and SB waters.

Shellfish Bed Classifications and Closures in the Norwalk Estuary

Shellfish classification areas in the Norwalk Estuary are shown in Figure 2. The following classifications for shellfish growing areas are defined by CT DA/BA for more detailed information and maps please see their website www.ct.gov/doag/cwp/view.asp?a=3768&q=478054 :

Approved Area: A growing area that is safe for the direct marketing or consumption of shellfish. An area may be classified as “Approved” when a sanitary survey finds that there is no contamination from human or animal fecal matter at levels that present an actual or potential public health hazard, and is not contaminated by pathogenic organisms, poisonous or deleterious substances, or marine biotoxins, and has water quality that meets the bacteriological standards for an Approved growing area.

Conditionally Approved Area: A growing area that, when open, shellfish may be harvested recreationally for consumption, or commercially for market. An area may be classified as “Conditionally Approved” when a sanitary survey finds that these areas can remain open for a reasonable period of time, and that factors impacting the area are known and predictable and do not preclude a reasonable management approach. Bacteriological water quality must correlate with the factors impacting the growing area. Each Conditionally Approved growing area must have a written management plan that is adhered to by all responsible parties.

CONDITIONALLY APPROVED SEASONAL AREA: Conditionally Approved Seasonal areas are closed under certain seasonal conditions, either due to the operations of marinas or mooring fields, or because the area may be subject to elevated bacteria levels during certain times of the year.

Restricted: A growing area in which the sanitary survey finds there are levels of fecal pollution, human pathogens, or poisonous or deleterious substances that can be reduced by relaying the shellstock to Approved or Conditionally Approved waters for natural cleansing or depuration. Shellfish from these areas may not be directly harvested for market or consumption.

Conditionally Restricted: A growing area that the sanitary survey finds meets “Restricted” classification when the area is in the open status, and meets the “Prohibited” classification when the area is in the closed status. The management plan must designate whether harvested shellfish are relayed or depurated.

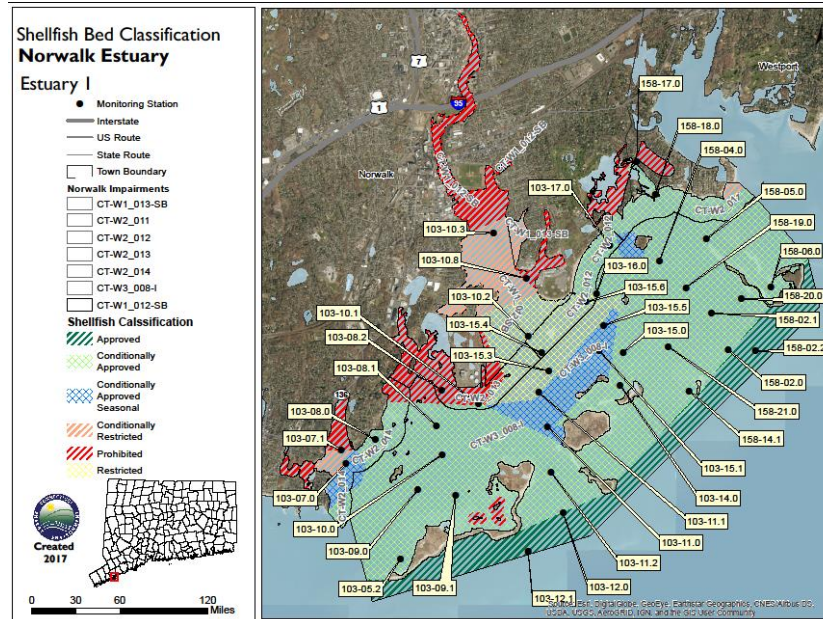
Prohibited: A growing area where there has not been a sanitary survey conducted within the last 12 years must be classified as Prohibited. Any area with a sewage treatment plant outfall or other point source that could impact public health is classified as Prohibited. This classification prohibits the harvest of shellfish except for seed oystering or depletion of the area.

As discussed above and shown in Table 1, Segment 1 (CT-W1_013-SB) does not meet its designated use for recreation due to bacteria and Shellfishing is Conditionally Restricted in Norwalk Harbor (Figure 2).

Segments 2 – 6 did not meet their designated use for shellfish harvesting for direct human consumption due to bacteria (Table 1). The majority of Segment 2 (CT-W2_011) is Conditionally Approved for shellfish harvesting, though the eastern-most part of the impaired segment is classified as Restricted. The eastern portion of Segment 3 (CT-W2_012) is Conditionally Approved for shellfishing and the western portion is

As discussed earlier, the northern portion of Segment 7 (CT-W1_012-SB) has an administrative closure due to the presence of one CSO. The southern part of the segment is Restricted for shellfishing.

Figure 2: GIS map featuring shellfish bed classifications and closures for the impaired segments in the Norwalk Estuary



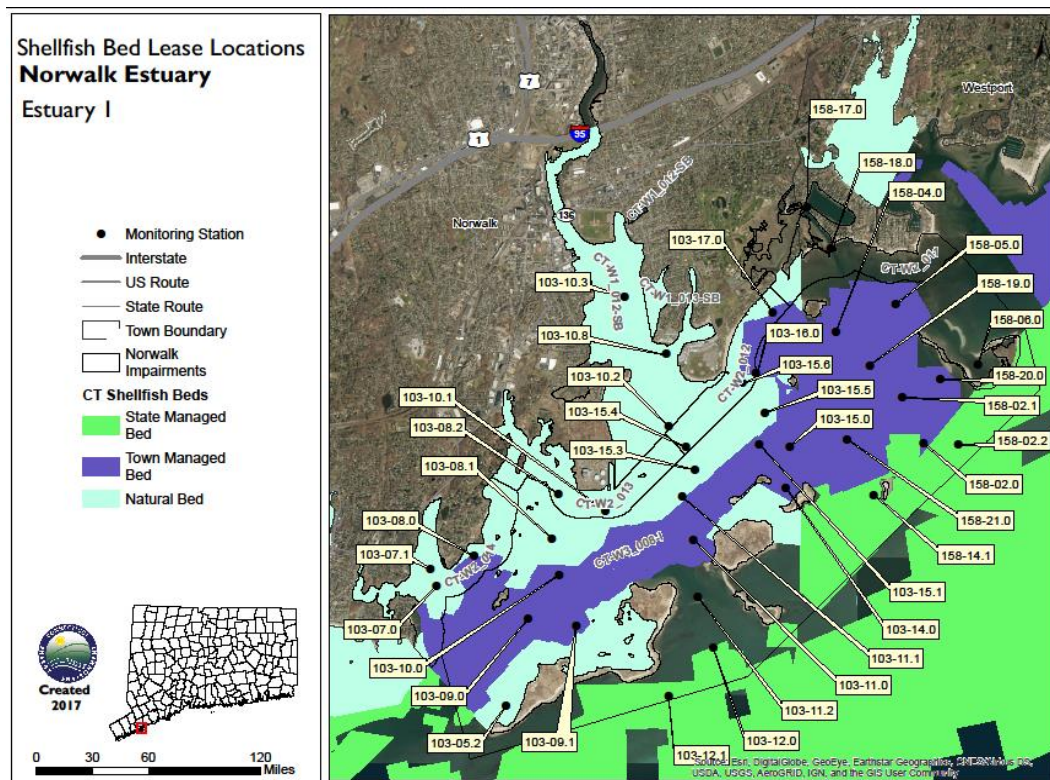
Shellfish beds in the Norwalk Estuary are also classified by their management (Figure 3). CT DA/BA defines these areas as follows:

State and Town Natural Beds: Natural beds get their name from the fact that shellfish, especially oyster, naturally inhabited the area. These areas tend to be closer to shore, usually at the mouth of a river. Natural beds have specific regulations concerning their use, including licensing and harvesting methods. They are predominately seed beds that cannot be

mechanically harvested. Use of natural beds requires a Relay/Transplant License I or II and/or Seed Oyster Harvesting License from CT DA/BA. Any person assisting in the harvesting of seed oysters must have a Helper's License. These beds cannot be leased or subdivided; they are to remain open to any properly licensed harvester. State natural beds are natural beds south of the Commissioner's Line. Descriptions of these beds can be found in §3295 of the Connecticut General Statutes (CGS), revision of 1918. Not all beds listed in §3295 were mapped, and many natural beds in State waters off Greenwich are managed through leases. Town natural beds were defined by law under §2326 of the CGS of 1888. Each town had the opportunity to map areas to be considered natural beds. The documents, written descriptions, and maps were submitted to the Superior Court with jurisdiction for that town. Several towns did not avail themselves to this opportunity, and some, such as Westport, have changed the delineation of their natural beds in recent court decisions. There are also areas that may have been declared natural beds, but are now leased.

Most shellfish beds in the Norwalk Estuary are natural beds. Most beds in Segment 6 (CT-W3_008-I) and portions of Segments 3 (CT-W2_012) and 5 (CT-W2_014) are town-managed beds (Figure 3) and beds in Segment 6 (CT-W3_008-I) are mostly Town managed with some natural and some State managed.

Figure 3: GIS map featuring Shellfish Bed Lease Locations for the impaired segments in the Norwalk Estuary



WHY IS A TMDL NEEDED?

For saltwater segments, the indicator bacteria, fecal coliform, is used in the CT Water Quality Standards (WQS) to assess shellfish uses for Class SA and SB waters (CTDEEP, 2013). Enterococcus is the indicator bacteria used to assess recreational uses for Class SA and SB waters. All data are from CT DEEP, USGS, Bureau of Aquaculture, or volunteer monitoring efforts at stations located on the impaired segments.

Segment 1 (CT-W1_013-SB) is a Class SB saltwater waterbody. Its applicable designated uses include commercial shellfish harvesting, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. Water quality analyses were conducted using data from one sampling location on Segment 1 (CT-W1_013-SB) (Table 2). The water quality criteria for enterococci, along with bacteria sampling results from 2000 – 2011, are presented in Table 13.

Segment 1 (CT-W1_013-SB) is impaired due to elevated bacteria concentrations, affecting the designated use of recreation. Segment 1 (CT-W1_013-SB) is also a designated beach (Marvin Beach), and the specific recreation impairment is for designated swimming and other water contact related activities. As shown in Table 13, single sample values at Marvin Beach exceeded the WQS for enterococci.

To aid in identifying possible bacteria sources, geometric means for data collected during the sampling period were also calculated for each station on Segment 1 (CT-W1_013-SB) using wet and dry-weather conditions, resulting in exceedance of WQS for enterococci during wet-weather (Table 13).

Segments 2 - 6 are Class SA saltwater waterbodies. Their applicable designated uses include shellfish harvesting for direct human consumption, recreation, habitat for marine fish and other aquatic life and wildlife, industrial water supply, and navigation. Water quality analyses were conducted using data from two sampling locations on Segments 2 (CT-W2_011) and 4 (CT-W2_013), four sampling locations on Segment 3 (CT-W2_012), three sampling locations on Segment 5 (CT-W2_014), and 25 sampling locations on Segment 6 (CT-W3_008-I). The water quality criteria for fecal coliform, along with bacteria sampling results from 2000 – 2011, are presented in Tables 13 – 18. These segments of the estuary are impaired due to elevated bacteria concentrations, affecting the designated use of shellfishing.

Segment 2 (CT-W2_011): As shown in Table 14, 90% less than values exceeded the WQS for fecal coliform multiple times during the sampling period at both stations in Segment 2. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in no exceedance of WQS for fecal coliform.

Segment 3 (CT-W2_012): As shown in Table 15, geometric mean and 90% less than values exceeded the WQS for fecal coliform multiple times at multiple stations in Segment 3 during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions. Although there were geomean exceedances in individual years, geometric means for wet and dry-weather did not exceed the WQS for fecal coliform at any station.

Segment 4 (CT-W2_013): As shown in Table 16, geometric mean and 90% less than values exceeded the WQS for fecal coliform multiple times at multiple stations in Segment 4 during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions. Although there were geomean exceedances in individual years, geometric means for wet and dry-weather did not exceed the WQS for fecal coliform at any station.

Segment 5 (CT-W2_014): As shown in Table 17, 90% less than values exceeded the WQS for fecal coliform multiple times at multiple stations in Segment 5 during the sampling period. Geometric means for data collected during the sampling period were also calculated for each station using wet and dry-weather conditions, resulting in no exceedance of WQS for fecal coliform.

Segment 6 (CT-W3_008-I): As shown in Table 18, geometric mean and 90% less than values exceeded the WQS for fecal coliform multiple times at multiple stations in Segment 6. Geometric means for data collected during the sampling period were also calculated for each station using wet-weather and dry-weather conditions. Although there were geomean exceedances in individual years, geometric means for wet and dry-weather did not exceed the WQS for fecal coliform at any station.

Segment 7 (CT-W1_012-SB): Geometric means for data collected during the sampling period were calculated at 3 stations using wet-weather and dry-weather conditions are shown in Table 19. No single sample of fecal coliform exceeded WQS. The geomean for wet weather samples was higher than the geomean for dry weather samples at all three stations.

Due to the elevated bacteria measurements presented in Tables 13 – 18, these six impaired segments did not meet CT's bacteria WQS, were identified as impaired, and were placed on the CT List of Waterbodies Not Meeting Water Quality Standards, also known as the CT 303(d) Impaired Waters List. The Clean Water Act requires that all 303(d) listed waters undergo a TMDL assessment that describes the impairments and identifies the measures needed to restore water quality. The goal is for all waterbodies to comply with State WQS.

Table 2: Sampling station information for the impaired segments in the Norwalk Estuary

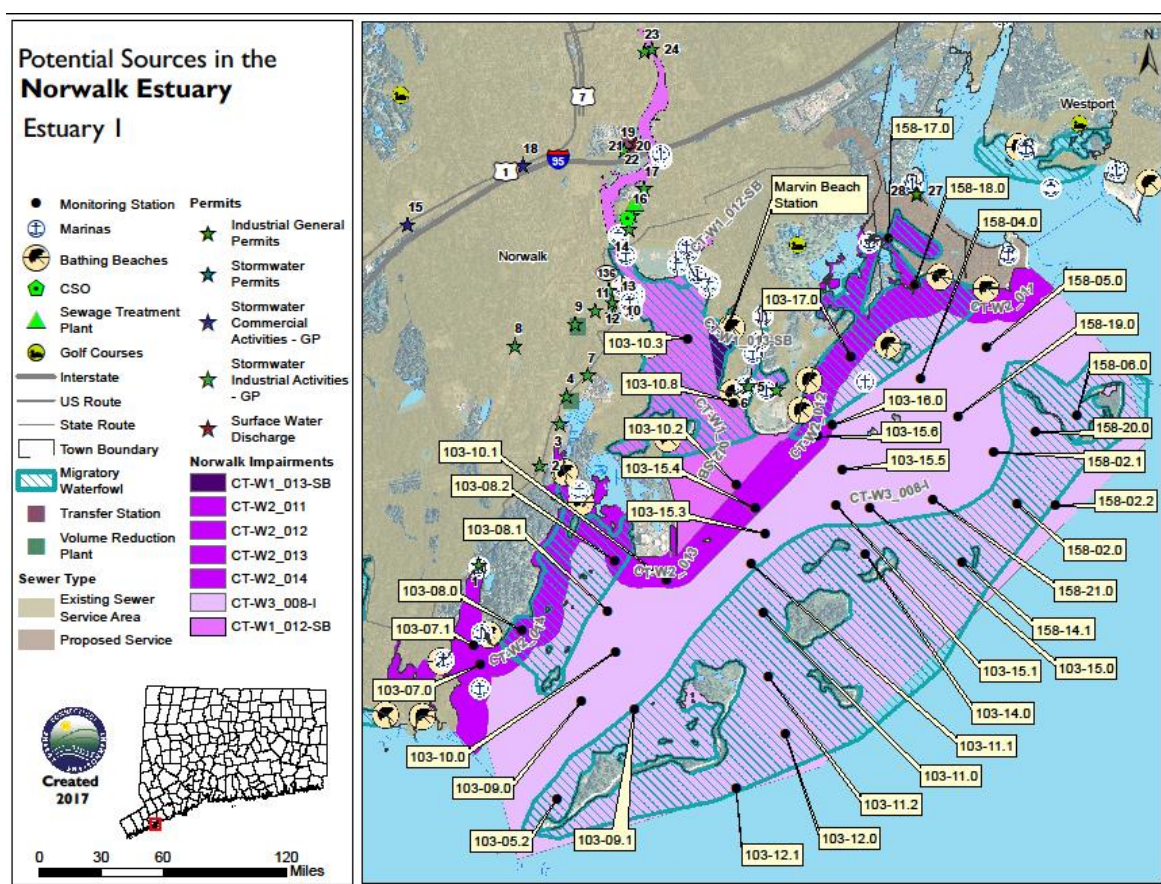
Waterbody ID	Waterbody Name	Station	Station Description	Town	Latitude	Longitude
CT-W1_013-SB	LIS WB Inner - Norwalk Harbor (Marvin Beach), Norwalk	Marvin Beach	Marvin Beach	Norwalk	41.0919	-73.4009
CT-W2_011	LIS WB Shore - Canfield Island, Westport	158-17.0	Bermuda Lagoon at "elbow"	Westport	41.1000	-73.3824
		158-18.0	entrance to Bermuda Lagoon	Westport	41.0959	-73.3793
CT-W2_012	LIS WB Shore - Outer Norwalk Harbor(East), Norwalk	103-15.4	SW Round Beach	Norwalk	41.0759	-73.3980
		103-15.6	off Calf Pasture Pier	Norwalk	41.0823	-73.3907
		103-16.0	over sandbar to Calf Pasture Island	Norwalk	41.0833	-73.3889
		103-17.0	NW Sprite Is./near Shorehaven	Norwalk	41.0894	-73.3868
CT-W2_013	LIS WB Shore - Outer Norwalk Harbor(West), Norwalk	103-08.2	W. Manresa Island	Norwalk	41.0711	-73.4146
		103-10.1	N"8"/C"7" channel	Norwalk	41.0694	-73.4084
CT-W2_014	LIS WB Shore - Wilson Cove, Farm Creek	103-07.0	Wilson Cove	Norwalk	41.0617	-73.4304
		103-07.1	N. Wilson Cove	Norwalk	41.0634	-73.4312
		103-08.0	E. Wilson Pt.	Norwalk	41.0648	-73.4256

Waterbody ID	Waterbody Name	Station	Station Description	Town	Latitude	Longitude
CT-W3_008-I	LIS WB Midshore - Norwalk Islands	103-05.2	N. of Sheffield dock	Norwalk	41.0498	-73.4212
		103-08.1	Tavern Island and Cedar Hammock	Norwalk	41.0666	-73.4154
		103-09.0	R"2"/C"3" channel	Norwalk	41.0585	-73.4184
		103-09.1	W. Dog Island	Norwalk	41.0579	-73.4121
		103-10.0	R"4"/C"5" channel	Norwalk	41.0630	-73.4144
		103-11.0	NW Chimon Island	Norwalk	41.0666	-73.3969
		103-11.1	S. Raymond Rocks	Norwalk	41.0709	-73.3984
		103-11.2	between Shea and Chimon Island	Norwalk	41.0609	-73.3963
		103-12.0	between Sheffield and Cops Island	Norwalk	41.0558	-73.3942
		103-12.1	S. Shea Is/E. end Sheffield Island	Norwalk	41.0510	-73.4000
		103-14.0	between Betts and Grassy Island	Norwalk	41.0719	-73.3849
		103-15.0	Grassy Hammock	Norwalk	41.0760	-73.3844
		103-15.1	N. C"9" / W. Grassy Hammock	Norwalk	41.0762	-73.3884
		103-15.3	C"1" NE Raymond Rocks	Norwalk	41.0736	-73.3968
		103-15.5	SW Calf Pasture Island	Norwalk	41.0794	-73.3877
		158-02.0	G"5" near Pecks Ledge	Norwalk	41.0764	-73.3670
		158-02.1	N. Pecks Ledge	Norwalk	41.0810	-73.3698
		158-02.2	SW Cockenoe Is. N"4"	Norwalk	41.0763	-73.3624
		158-04.0	SE Sprite Island	Norwalk	41.0875	-73.3785
		158-05.0	NW Cockenoe Island	Norwalk	41.0903	-73.3707
		158-06.0	Cockenoe Island Cove	Norwalk	41.0844	-73.3599
		158-14.1	N. side Goose Island	Norwalk	41.0713	-73.3734
		158-19.0	E. Sheep Rocks	Norwalk	41.0842	-73.3740
		158-20.0	W. Cockenoe Island	Norwalk	41.0828	-73.3649
		158-21.0	E. Grassy Hammock	Norwalk	41.0768	-73.3770
CT-W1_012	LIS WB Inner-Norwalk Harbor	103-10.2		Norwalk	41.0779	-73.40025
		103-10.3		Norwalk	41.090883	-73.406117
		103-10.8		Norwalk	41.085181	-73.40063

POTENTIAL BACTERIA SOURCES

Potential sources of indicator bacteria in a watershed include point and non-point sources, such as stormwater runoff, agriculture, sanitary sewer overflows (collection system failures), illicit discharges, and inappropriate discharges to the waterbody. Potential sources that have been tentatively identified in the Norwalk Estuary are presented in Table 3 and Figure 4. However, the list of potential sources is general in nature and should not be considered comprehensive. There may be other sources not listed here that contribute to the observed water quality impairment in the study segments. Further monitoring and investigation will confirm listed sources and discover additional ones. Some segments in this watershed are currently listed as unassessed by CT DEEP procedures. This does not mean that there are no data or impairments in existence in the segment. There are data from permitted sources for some segments, and CT DEEP recommends that any elevated concentrations found from those permitted sources be addressed through voluntary reduction measures. More detailed evaluation of potential sources is expected to become available as activities are conducted to implement these TMDLs.

Figure 4: Potential bacteria sources to the impaired segments in the Norwalk Estuary



The potential sources map for the impaired basin was developed after thorough analysis of available data sets. If information is not displayed in the map, then no sources were discovered during the analysis. The following is the list of potential sources that were evaluated: problems with migratory waterfowl, golf course locations, reservoirs, proposed and existing sewer service, cattle farms, poultry farms, permitted sources of bacteria loading (surface water discharge, MS4 permit, industrial stormwater, commercial stormwater, and groundwater permits), and leachate and discharge sources (agricultural waste, CSOs, failing septic systems, landfills, large septic tank leach fields, septage lagoons, sewage treatment plants, and water treatment or filter backwash).

Table 3: Potential bacteria sources to the impaired segments in the Norwalk Estuary

Segment #	Impaired Segment	Permit Source	Illicit Discharge	CSO/SSO Issue	Failing Septic System	Marinas	Stormwater Runoff	Nuisance Wildlife/Pets	Other
1	LIS WB Inner – Norwalk Harbor (Marvin Beach) CT-W1_013-SB	x	x		x		x	x	x
2	LIS WB Shore – Canfield Island CT-W2_011	x			x		x	x	x
3	LIS WB Shore – Outer Norwalk Harbor (East) CT-W2_012	x			x	x	x	x	x
4	LIS WB Shore – Outer Norwalk Harbor (West) CT-W2_013	x	x		x		x	x	x
5	LIS WB Shore – Wilson Cove, Farm Creek CT-W2_014	x	x		x	x	x	x	x
6	LIS WB Midshore – Norwalk Islands CT-W3_008-I					x		x	x

Segment #	Impaired Segment	Permit Source	Illicit Discharge	CSO/SSO Issue	Failing Septic System	Marinas	Stormwater Runoff	Nuisance Wildlife/Pets	Other
7	LIS WB Inner-Norwalk Harbor CT-W1_012	x	x	x	x	x	x	x	x

Point Sources

Permitted sources within the watershed that could potentially contribute to the bacteria loading are identified in Table 4. This table includes permit types that may or may not be present in the impaired watershed. A list of active permits in municipalities that drain to the Norwalk estuary is included in Table 5. Additional investigation and monitoring could reveal the presence of other discharges in the estuary.

Table 4: General categories list of permitted discharges

Permit Code	Permit Description Type	Number in Estuary
CT	Surface Water Discharges	1
GPL	Discharge of Swimming Pool Wastewater	1
GSC	Stormwater Discharge Associated with Commercial Activity	2
GSI	Stormwater Associated with Industrial Activity	22
GSM	Part B Municipal Stormwater MS4	2
LF	Groundwater Permit (Landfill)	0
UI	Underground Injection	1

Permitted Sources

As shown in Table 5, there are multiple permitted discharges in Norwalk that could be contributing bacteria to the impaired segments. These facilities include industrial facilities, the Norwalk Water Pollution Control Facility, and multiple marinas throughout the watershed. These marinas include Total Marine (GSI002272), Norwalk Cove Marina (GSI000319), Rex Marine Center (GSI002465) and Wilson Cove Marina (GSI001052). As shown in Table 6, there are water quality data available from some of these discharges. Fecal coliform data cannot be compared to the WQS as there is no single sample shellfish standard for fecal coliform, however, no more than 10% of the samples can exceed 31 cfu/100 mL for an SA waterbody and no more than 10% of the samples can exceed 260 cfu/100 mL for an SB waterbody. Several samples reported fecal coliform amounts exceeding 2,000 colonies/100 mL, including King Industries (GSI000628), Fed Ex (GSI000972), City Carting (GSI002501), Devine Brothers (GSI002538), the Norwalk WWTP (GSI001829), and Norwalk Public Works Center (GSI000965), (Table 6).

Since the Municipal Separate Storm Sewer Systems (MS4) permits are not targeted to a specific location, but the geographic area of the regulated municipality, there is no one accurate location on the map to display the location of these permits, therefore the MS4 permit will not be displayed in the Potential Sources Map.

Using the municipal border as a guideline will show which areas of an affected watershed are covered by an MS4 permit.

Table 5: Permitted facilities that may be affecting the Norwalk Estuary. Map # corresponds with the numbers on the Potential Sources map (Figure 4)

Town	Client	Permit ID	Permit Type	Site Name	Address	Map #
Norwalk	Wilson Cove Marina, Inc	GS1001052	Stormwater Associated with Industrial Activity	Wilson Cove Marina	120 Wilson Ave	1
Norwalk	Norwalk Transit District	GS1001668	Stormwater Associated with Industrial Activity	Norwalk Transit District	275 Wilson Ave	2
Norwalk	First Student, Inc.	GS1002114	Stormwater Associated with Industrial Activity	First Student, Inc.	334 Wilson Ave	3
Norwalk	City Carting, Inc.	GS1001974	Stormwater Associated with Industrial Activity	Norwalk Meadow Street Facility	8-18, 30-32, 30-120, 30B, 36 Meadow Street	4
Norwalk	Norwalk Cove Marina, Inc.	GS1000319	Stormwater Associated with Industrial Activity	Norwalk Cove Marina, Inc.	48 Calf Pasture Beach Rd	5
Norwalk	Shore And Country Club Inc.	GS1002570	Stormwater Associated with Industrial Activity	220 Gregory Boulevard	220 Gregory Blvd	6
Norwalk	Lajoie Auto Wrecking Company	GS1000477	Stormwater Associated with Industrial Activity	Lajoie's Auto Wrecking Company, Inc.	40 Meadow St	7
Norwalk	United Parcel Service, Inc.	GS1000237	Stormwater Associated with Industrial Activity	United Parcel Service, Inc.	190 Dr Martin Luther King Jr Dr	8
Norwalk	J.L. Seaman, LLC	GS1001457	Stormwater Associated with Industrial Activity	J.L. Seaman, LLC	3 Merritt St	9
Norwalk	Total Marine Of Norwalk Inc.	GS1002272	Stormwater Associated with Industrial Activity	160 Water St.	160 Water St	10
Norwalk	Ecometics, Inc.	GS1000975	Stormwater Associated with Industrial Activity	Ecometics, Inc.	19 Concord St	11
Norwalk	Rex Marine Center, Inc.	GS1002465	Stormwater Associated with Industrial Activity	Rex Marine Center, Incorporated	144 Water St	12
Norwalk	Marinemax Northeast, LLC	GS1002695	Stormwater Associated with Industrial Activity	Marinemax	130 Water St	13
Norwalk	Coastwise Boatworks, LLC	GS1002415	Stormwater Associated with Industrial Activity	11 Goldstein Place	11 Goldstein Pl	14

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Town	Client	Permit ID	Permit Type	Site Name	Address	Map #
Norwalk	The Stop & Shop Supermarket Co LLC	GSC000147	Stormwater Discharge Associated with Commercial Activity	Stop & Shop #640	385 Connecticut Ave	15
Norwalk	City Of Norwalk	GSI001829	Stormwater Associated with Industrial Activity	Norwalk Sewage Treatment	60 S Smith St	16
Norwalk	City Carting, Inc.	GSI000965	Stormwater Associated with Industrial Activity	15 South Smith Street	15 S Smith St	17
Norwalk	Lowe's Home Centers, LLC	GSC000423	Stormwater Discharge Associated with Commercial Activity	100 Connecticut Avenue	100 Connecticut Ave	18
Norwalk	City Carting, Inc.	GSI002501	Stormwater Associated with Industrial Activity	Norwalk Transfer Station	61 Science Road	19
Norwalk	Amec Carting, LLC	GSI002151	Stormwater Associated with Industrial Activity	Norwalk Transfer Station	61 Science Road	20
Norwalk	King Industries, Inc.	GSI000628	Stormwater Associated with Industrial Activity	King Industries, Inc.	1 Science Rd	21
Norwalk	King Industries, Inc.	CT0000841	Surface Water Discharge	King Industries, Inc.	1 Science Rd	22
Norwalk	Devine Bros., Inc.	GSI002538	Stormwater Associated with Industrial Activity	Devine Bros., Inc.	38 Commerce St	23
Norwalk	O & G Industries, Inc.	GSI001565	Stormwater Associated with Industrial Activity	Norwalk Asphalt	34 Smith Street	24
Norwalk	City of Norwalk	GSM000024	Municipal Stormwater MS4	City of Norwalk	MS4 Permit	Entire city
Norwalk	City Of Norwalk	UI0000301	Groundwater Discharge	Silvermine Elementary School	157 Perry Ave	26
Westport	City of Westport	GSM000026	Municipal Stormwater MS4	City of Westport	MS4 Permit	Entire city
Westport	Saugatuck Harbor Yacht Club, Inc	GSI002502	Stormwater Associated with Industrial Activity	Saugatuck Harbor Yacht Club, Inc	29 Harbor Rd	27
Westport	Saugatuck Harbor Yacht Club, Inc	GPL000251	Discharge of Swimming Pool Wastewater	Saugatuck Harbor Yacht Club, Inc	29 Harbor Rd	28

Table 6: Industrial permits affecting the Norwalk Estuary and available bacteria data (colonies/100mL). Fecal coliform results cannot be directly compared to the water quality standard as there is no single sample shellfish standard for fecal coliform however, no more than 10% of the samples can exceed 31 cfu/100 mL for an SA waterbody and no more than 10% of the samples can exceed 260 cfu/100 mL for an SB waterbody. Elevated levels of bacteria are highlighted below.

Town	Facility	Permit Number	Receiving Water	Sample Location	Sample Date	Fecal Coliform	Enterococcus
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	04/30/13	49	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	07/31/13	500	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	10/31/13	17	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	04/30/14	369	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	10/31/14	184	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	04/30/15	30	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	10/31/15	8	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	01/31/16	2	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	04/30/16	20	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	07/31/16	810	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	10/31/16	20	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	01/31/17	190	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	04/30/17	48	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001D	07/31/17	124	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	06/30/13	10,600	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	07/31/13	330	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	03/31/14	364	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	09/30/14	123	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	03/31/15	16	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	08/31/15	129	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	10/31/15	960	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	08/31/16	1,890	
Norwalk	King Industries, Inc.	CT0000841	Norwalk River	001W	03/31/17	6	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-11	11/06/14	1,290	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-12	11/06/14	1,370	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-21	11/06/14	230	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-3	11/06/14	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-11	10/28/15	2,270	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-12	10/28/15	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-21	10/28/15	2,690	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-3	10/28/15	2,400	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-11	08/10/16	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-12	08/10/16	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-21	08/10/16	22	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-3	08/10/16	>3,000	

Town	Facility	Permit Number	Receiving Water	Sample Location	Sample Date	Fecal Coliform	Enterococcus
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-11	11/29/16	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-12	11/29/16	>3,000	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-21	11/29/16	194	
Norwalk	King Industries, Inc.	GSI000628	Norwalk River	SD-3	11/29/16	620	
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	05/01/12	162	573
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	11/01/13	1,100	>2,4196
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	12/23/13	87,000	>2,4196
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	09/10/15	6,400	>2,4196
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	03/14/16	11,100	3,448
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	09/19/16	11,100	3,448
Norwalk	City of Norwalk	GSI000965	Norwalk River	Outfall 1-DPW	11/15/16	673	2,172
Norwalk	City of Norwalk WWT	GSI001829	Norwalk River	Yard Grit Separator	11/01/13	37,000	>2,4196
Norwalk	City Carting, Inc.	GSI002501	Norwalk River	DSN 001	02/03/16	>20,000	24,200
Norwalk	City Carting, Inc.	GSI002501	Norwalk River	DSN 001	09/30/16	>20,000	24,200
Norwalk	Devine Brothers, Inc.	GSI002538	Norwalk Inner Harbor/River	SP-1	05/08/13	31	281
Norwalk	Devine Brothers, Inc.	GSI002538	Norwalk Inner Harbor/River	SP-1	10/16/14	3,400	1,723
Norwalk	Devine Brothers, Inc.	GSI002538	Norwalk Inner Harbor/River	SP-1	10/28/15	1,400	1,674
Norwalk	The Shore and Country Club	GSI002570	Norwalk Harbor	Outfall Location One	10/16/14		1,989
Norwalk	The Shore and Country Club	GSI002570	Norwalk Harbor	Outfall Location One	04/07/15		5
Norwalk	The Shore and Country Club	GSI002570	Norwalk Harbor	Outfall Location One	10/27/16		20

Municipal Stormwater Permitted Sources

Per the EPA Phase II Stormwater rule all municipal storm sewer systems (MS4s) operators located within US Census Bureau Urbanized Areas (UAs) must be covered under MS4 permits regulated by the appropriate State agency. The Phase II Stormwater Rule also required coverage of state and federal institutions that it called “non-traditional” MS4s. State and federal prisons, colleges, hospitals and military facilities are covered by the general permit as non-traditional MS4s. There are 121 municipalities and 12 institutions currently regulated by CT DEEP’s General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems, effective January 1, 2017 (MS4 permit). These municipalities and institutions are considered small MS4s as defined by EPA. Stormwater discharges from CT’s only medium MS4, Stamford, as defined by EPA, are regulated by an individual permit.

The US Census Bureau defines a UA as a densely settled area that exceeds a population of 50,000 people and has a population density of at least 1,000 people per square mile. The UA will also include adjacent block groups and blocks with at least 500 people per square mile. A UA consists of all or part of one or more incorporated places and/or census designated places, and may include additional territory outside of any place. (67 FR 11663)) Maps of UAs are published after each decennial census, the most recent maps reflect the results of the 2010 census. The current MS4 permit requires implementation of the six minimum control measures throughout the municipality with some additional or alternate measures within the UA portion of the MS4. These six minimum measures are explained later in this document.

The impaired segments in the Norwalk Estuary are located within the City of Norwalk and the Town of Westport, CT. Both municipalities have designated urban areas, as defined by the U.S. Census Bureau, and are required to comply with the General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems (MS4 permit) issued by CT DEEP (Figure 5). This general permit is only applicable to municipalities that are identified in Appendix A of the MS4 permit that contain designated urban areas and discharge stormwater via a separate storm sewer system to surface waters of the State. The permit requires municipalities to develop a Stormwater Management Plan (SMP) to reduce the discharge of pollutants as well as protect water quality. The MS4 permit is discussed further in the “TMDL Implementation Guidance” section of the core TMDL document. Additional information regarding stormwater management and the MS4 permit can be obtained on CTDEEP’s website www.ct.gov/deep/stormwater.

None of the sampled MS4 outfall locations in Westport discharge into this estuary. Norwalk has sampled MS4 outfalls for E. coli bacteria in the watershed discharging directly to the shoreline of LIS or indirectly through the Norwalk River (Table 7). Although the results cannot be compared to the water quality standard as E. coli is the wrong indicator species for saltwater segments, high counts were detected.

Figure 5: MS4 areas near the Norwalk Estuary

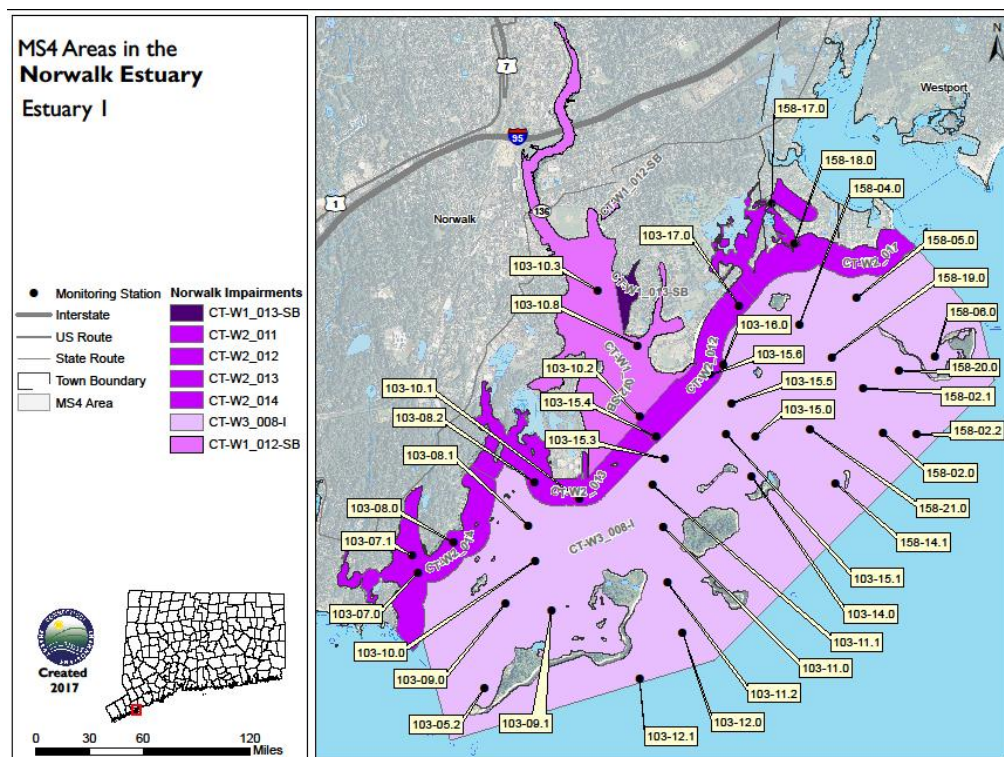


Table 7: List of MS4 sample locations and *E. coli* (colonies/100 mL) sample results reported by the City of Norwalk for the MS4 permit (GSM000024). The results cannot be compared to the water quality standard as *E. coli* is the wrong indicator species for saltwater segments.

Town	Location	Receiving Waters	Sample Date	Result
Norwalk	Day & Concord (catch basin)	Norwalk River	2/17/2006	111
Norwalk	Day & Concord (manhole)	Norwalk River	2/17/2006	980
Norwalk	Merritt Street (Catch Basin)	Norwalk River	2/17/2006	214
Norwalk	Merritt Street (Manhole)	Norwalk River	2/17/2006	326
Norwalk	Raymond St (catch basin)	Norwalk River	2/17/2006	205
Norwalk	Raymond St (manhole)	Norwalk River	2/17/2006	5
Norwalk	Total Marina outfall	Norwalk River	2/17/2006	24
Norwalk	Total Marina surface depression	Norwalk River	2/17/2006	1
Norwalk	Woodland (catch basin)		2/17/2006	59
Norwalk	Woodland (manhole)		2/17/2006	276
Norwalk	Day & Concord (catch basin)	Norwalk River	4/24/2006	>2,419.6
Norwalk	Day & Concord (manhole)	Norwalk River	4/24/2006	>2,419.6
Norwalk	Merritt Street (Catch Basin)	Norwalk River	4/24/2006	914
Norwalk	Merritt Street (Manhole)	Norwalk River	4/24/2006	1,733
Norwalk	Raymond St (manhole)	Norwalk River	4/24/2006	1,414
Norwalk	Woodland (catch basin)		4/24/2006	1,511
Norwalk	Woodland (manhole)		4/24/2006	1,033
Norwalk	Day & Concord (catch basin)	Norwalk River	5/15/2006	82
Norwalk	Day & Concord (manhole)	Norwalk River	5/15/2006	>2,419.6
Norwalk	Merritt Street (Catch Basin)	Norwalk River	5/15/2006	>2,419.6
Norwalk	Merritt Street (Manhole)	Norwalk River	5/15/2006	2,420
Norwalk	Raymond St (manhole)	Norwalk River	5/15/2006	1,414
Norwalk	Total Marina (catch basin)	Norwalk River	5/15/2006	1
Norwalk	Total Marina (smaller outfall)	Norwalk River	5/15/2006	1
Norwalk	Woodland (catch basin)		5/15/2006	830
Norwalk	Woodland (manhole)		5/15/2006	1,553
Norwalk	NR0.3	Norwalk River	6/27/2007	390

Town	Location	Receiving Waters	Sample Date	Result
Norwalk	NR0.4	Norwalk River	6/27/2007	3,300
Norwalk	NR0.5	Norwalk River	6/27/2007	310
Norwalk	NR1.1	Norwalk River	6/27/2007	190
Norwalk	NR1.2	Norwalk River	6/27/2007	730
Norwalk	NR0.3	Norwalk River	7/11/2007	50
Norwalk	NR0.4	Norwalk River	7/11/2007	50
Norwalk	NR0.5	Norwalk River	7/11/2007	330
Norwalk	NR1.2	Norwalk River	7/11/2007	1,200
Norwalk	NR1.1	Norwalk River	7/11/2007	0
Norwalk	NR0.3	Norwalk River	7/19/2007	2,600
Norwalk	NR0.4	Norwalk River	7/19/2007	300
Norwalk	NR0.5	Norwalk River	7/19/2007	310
Norwalk	NR1.2	Norwalk River	7/19/2007	380
Norwalk	NR0.3	Norwalk River	7/25/2007	90
Norwalk	NR0.4	Norwalk River	7/25/2007	60
Norwalk	NR0.5	Norwalk River	7/25/2007	150
Norwalk	NR1.1	Norwalk River	7/25/2007	120
Norwalk	NR1.2	Norwalk River	7/25/2007	1,800
Norwalk	Main Street/Wall St	Norwalk River	10/27/2016	700
Norwalk	School St		10/27/2016	4,900
Norwalk	Medical Center	Norwalk River	10/27/2016	7,500
Norwalk	New Canaan Ave	Norwalk River	10/27/2016	2,000
Norwalk	Perry Avenue		10/27/2016	100
Norwalk	Linden Street		10/27/2016	2,400

Publicly Owned Treatment Works

The Norwalk Water Pollution Control Facility (CT0101249) is located on the Norwalk River on South Smith Street and has the potential to impact the shellfish growing waters in the Norwalk Estuary (Norwalk, 2013). According to the 2013 Norwalk Estuary Report, during 2013 there were 18 reported collection system bypasses in Norwalk. Most of these had no impact on shellfish growing areas in Norwalk, and none of them resulted in a closure. Bacteria data from the effluent of the Norwalk Water Pollution Control Facility (WPCF) are included in Table 8a and table 8b. The plant did not exceed its permit limits for fecal coliform but exceeded enterococci maximum daily limit once.

Table 8a: Norwalk Water Pollution Control Facility (WPCF) Fecal coliform (colonies/100 mL) discharging to the Norwalk Estuary

Permittee	Permit Number	Receiving Water	Date	30-Day Geometric Mean
City of Norwalk	CT010124	Norwalk River	10/31/2015	5
City of Norwalk	CT010124	Norwalk River	11/30/2015	4
City of Norwalk	CT010124	Norwalk River	12/31/2015	2
City of Norwalk	CT010124	Norwalk River	1/31/2016	2
City of Norwalk	CT010124	Norwalk River	2/29/2016	2
City of Norwalk	CT010124	Norwalk River	3/31/2016	2
City of Norwalk	CT010124	Norwalk River	4/30/2016	2
City of Norwalk	CT010124	Norwalk River	5/31/2016	3
City of Norwalk	CT010124	Norwalk River	6/30/2016	6
City of Norwalk	CT010124	Norwalk River	7/31/2016	4
City of Norwalk	CT010124	Norwalk River	8/31/2016	20
City of Norwalk	CT010124	Norwalk River	9/30/2016	15
City of Norwalk	CT010124	Norwalk River	10/31/2016	6
City of Norwalk	CT010124	Norwalk River	11/30/2016	3
City of Norwalk	CT010124	Norwalk River	12/31/2016	2
City of Norwalk	CT010124	Norwalk River	1/31/2017	2
City of Norwalk	CT010124	Norwalk River	2/28/2017	2
City of Norwalk	CT010124	Norwalk River	3/31/2017	2
City of Norwalk	CT010124	Norwalk River	4/30/2017	3
City of Norwalk	CT010124	Norwalk River	5/31/2017	3
City of Norwalk	CT010124	Norwalk River	6/30/2017	3
City of Norwalk	CT010124	Norwalk River	7/31/2017	2
City of Norwalk	CT010124	Norwalk River	8/31/2017	4
30-Day Geometric Mean Permit Limit = 88 colonies/100 mL				

Table 8b: Norwalk Water Pollution Control Facility (WPCF) Enterococci data (colonies/100 mL) discharging to the Norwalk Estuary

Permittee	Permit Number	Receiving Water	Date	30-Day Geometric Mean	Maximum
City of Norwalk	CT010124	Norwalk River	10/31/2015	18	63
City of Norwalk	CT010124	Norwalk River	11/30/2015	12	52
City of Norwalk	CT010124	Norwalk River	12/31/2015	12	30
City of Norwalk	CT010124	Norwalk River	01/31/2016	13	20
City of Norwalk	CT010124	Norwalk River	02/29/2016	10	10
City of Norwalk	CT010124	Norwalk River	03/31/2016	10	10
City of Norwalk	CT010124	Norwalk River	04/30/2016	12	20
City of Norwalk	CT010124	Norwalk River	05/31/2016	11	20
City of Norwalk	CT010124	Norwalk River	06/30/2016	12	30
City of Norwalk	CT010124	Norwalk River	07/31/2016	15	283
City of Norwalk	CT010124	Norwalk River	08/31/2016	27	106

Permittee	Permit Number	Receiving Water	Date	30-Day Geometric Mean	Maximum
City of Norwalk	CT010124	Norwalk River	09/30/2016	12	61
City of Norwalk	CT010124	Norwalk River	10/31/2016	13	20
City of Norwalk	CT010124	Norwalk River	11/30/2016	11	20
City of Norwalk	CT010124	Norwalk River	12/31/2016	11	20
City of Norwalk	CT010124	Norwalk River	01/31/2017	13	20
City of Norwalk	CT010124	Norwalk River	02/28/2017	14	121
City of Norwalk	CT010124	Norwalk River	03/31/2017	10	10
City of Norwalk	CT010124	Norwalk River	04/30/2017	29	9208
City of Norwalk	CT010124	Norwalk River	05/31/2017	11	20
City of Norwalk	CT010124	Norwalk River	06/30/2017	10	10
City of Norwalk	CT010124	Norwalk River	07/31/2017	11	20
City of Norwalk	CT010124	Norwalk River	08/31/2017	20	75
30-Day Geometric Mean Permit Limit = 35 colonies/100 mL					
Maximum Daily Permit Limit = 500 colonies/100 mL					

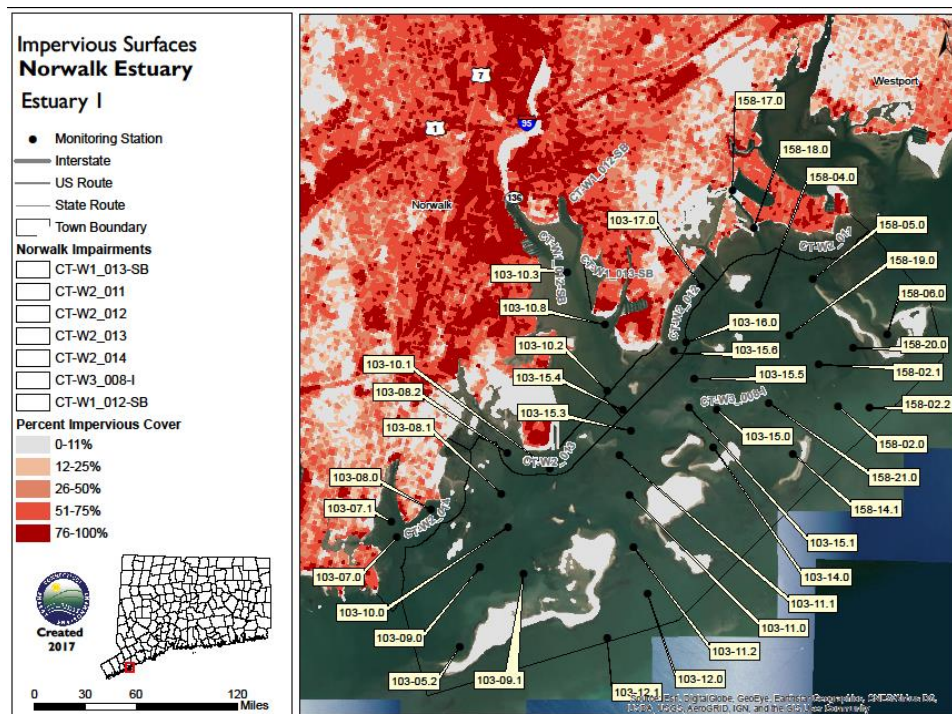
Non-point Sources

Non-point source (NPS) pollution comes from many diffuse sources and is more difficult to identify and control. NPS pollution is often associated with certain land-use practices. Examples of NPS that can contribute bacteria to surface waters include stormwater runoff, illicit discharges, insufficient septic systems, pet and wildlife waste, agriculture, and contact recreation (swimming or wading). With the waters of the Norwalk Estuary being tidally influenced, many bacterial sources that appear to be downstream of the impaired segment may be also affecting the water quality in upstream segments. Potential sources of NPS to the impaired segments in the Norwalk Estuary are described below.

Stormwater Runoff from Developed Areas

The City of Norwalk and the Town of Westport are heavily developed. Impervious surfaces, or surface areas such as roofs and roads that force water to run off land surfaces rather than infiltrate soil, often characterize developed areas. Studies have shown a link between the amount of impervious area in a watershed and water quality conditions. In one study, researchers correlated the amount of fecal coliform to the percentage of land with impervious cover in a watershed (Mallin *et al.*, 2000). While all levels of IC can contribute stormwater to streams, it is important to note that land with greater than 12% IC is likely to be contributing enough stormwater to streams to have a negative impact on water quality (CWP, 2003). Towns should aim to make stormwater improvements in areas with IC greater than 12% in an effort to reduce the amount of stormwater pollution reaching surface waters which will protect and improve water quality. For more information please refer to the town factsheets on our web site, scroll down to access the map or pulldown list (www.ct.gov/deep/cwp/view.asp?A=2719&Q=567336). According to the 2013 Norwalk Estuary Report, commercial and residential land use has increased total impervious cover along coastal regions of Norwalk, which has increased stormwater runoff to the estuary. Coastal land bordering the Norwalk Estuary in Norwalk and Westport exceeds 12% impervious surfaces (Figure 6). Some areas in the City of Norwalk exceeds 76% impervious surfaces. As such, stormwater runoff from these developed areas are likely contributing bacteria to the Norwalk Estuary.

Figure 6: Impervious cover (%) for Norwalk and Westport, CT



Illicit Discharges and Insufficient Septic Systems

As shown in Figure 4, the majority of Norwalk and Westport rely on a municipal sanitary sewer system. Sewer system leaks and other illicit discharges can contribute bacteria to nearby surface waters.

A portion of the watershed, particularly near Segments 3 - 6, also relies on onsite wastewater treatment systems, such as septic systems. Properly managed septic systems and leach fields have the ability to effectively remove bacteria from waste. If systems are not maintained, waste will not be adequately treated and may result in bacteria reaching nearby surface and ground water. In Connecticut, local health directors or health districts are responsible for investigating and issuing orders to abate insufficient or failing septic systems within their jurisdiction. The City of Norwalk has a full-time health director www.norwalkct.org/index.aspx?nid=676. Westport does not have a specific health director and is part of the Westport-Weston health district (www.wvhd.org/).

Wildlife and Domestic Animal Waste

Wildlife, including waterfowl, and domestic animals within the municipalities of Norwalk and Westport, including those present in the estuary, represent another potential source of bacteria to the impaired waterbodies. Elevated bacteria levels due solely to a natural population of wildlife are not subject to the WQS. However, any exacerbation of wildlife population sizes or residency times influenced by human activities is subject to the CT WQS and TMDL provisions. Multiple locations of concentrated migratory waterfowl have been identified throughout the Norwalk Estuary, including within Segment 6 (CT-W3_008-I) near the Norwalk Islands and along the shoreline (Figure 4). With the construction of roads and drainage systems, wastes from these waterfowl may no longer be retained on the landscape, but instead may be conveyed via stormwater to the nearest surface waterbody. As such, physical land alterations can exacerbate the impact of natural sources on water quality (USEPA, 2001).

Shorehaven Golf Course is located in the City of Norwalk near Segment 1 (CT-W1_013-SB), Segment 2 (CT-W2_011), Segment 3 (CT-W2_012) and Segment 7 (CT-W1_012-SB). Geese and other waterfowl are known to congregate in open areas, including recreational fields, agricultural crop fields, and golf courses. In addition to creating a nuisance, large numbers of geese can create unsanitary conditions on the grassed areas and cause water quality problems due to bacterial contamination associated with their droppings. Large populations of geese can also lead to habitat destruction as a result of overgrazing on wetland and riparian plants.

As indicated previously, portions of Norwalk and Westport near the estuary are heavily developed with commercial and residential properties. As such, waste from domestic animals, such as dogs, may also be contributing to bacteria concentrations in these impaired segments in the Norwalk Estuary.

Marinas

As noted previously, multiple marinas are located within the Norwalk Estuary (Figure 4 and Table 5). Marinas are located at the water's edge, and if no measures are taken to reduce pollutants, including buffering, pollutants can be transported via runoff from parking lots and hull maintenance areas directly into the marina basin. Common pollutants from marinas include bacteria and nutrients from stormwater runoff, solid and liquid materials used in boat maintenance and cleaning, fuel and oil, sewage from public restrooms and boat pump-outs, fish waste, and turbidity from boating activities. The use of pump out boats and facilities dramatically reduce bacteria loading from boats. There is a pump-out boat operating in the waters of southwestern Connecticut and multiple marinas with pump-out facilities. The CT DEEP has information on regional pump-out boats and facilities at its website, www.ct.gov/deep/pumpoutdirectory. The service is free and eliminates the possibility of vessels dumping raw wastes into Long Island Sound, which is prohibited by CT Water Quality Standards number 24, "the discharge of sewage from any vessel to any water is prohibited."

All Connecticut coastal waters are designated "No Discharge Areas" (NDAs) prohibiting the discharge of sewage, treated or untreated. Eliminating the release of all sewage from boats, will result in further reductions of human fecal waste discharge and, therefore, reductions in nutrient loading and potential human exposure to bacterial and viral pathogens in swimming areas, shellfish beds and other environmentally sensitive aquatic habitats. For more information please see our web site www.ct.gov/deep/cwp/view.asp?a=2705&q=399328&deepNav_GID=1620.

Recreation

People coming in direct contact with surface water presents another potential source of bacterial contamination. Microbial source tracking (MST) surveys conducted in New Hampshire have shown humans to be a source of bacterial contamination at beaches (Jones, 2008). Since there is a designated beach (Marvin Beach) in the impaired Segment 1 (CT-W1_013-SB) in Norwalk Harbor, it is probable that some bacterial contamination can be attributed to human activities at Marvin Beach.

Additional Sources

There may be other sources not listed here or identified in Figure 4 that contribute to the observed water quality impairments in the Norwalk Estuary. Further monitoring and investigation will confirm the listed sources and discover additional ones. More detailed evaluation of potential sources is expected to become available as activities are conducted to implement this TMDL.

CURRENT MANAGEMENT ACTIVITIES

The City of Norwalk and the Town of Westport have developed and implemented programs to protect water quality from bacterial contamination. In addition, the National Shellfish Sanitation Program (NSSP) has multiple requirements for the protection and evaluation of shellfish growing areas. More information about this program is provided below and available online: www.fda.gov/food/guidanceregulation/federalstatefoodprograms/ucm2006754.htm.

The NSSP requires the completion of a sanitary survey to determine acceptable and unacceptable growing areas, and to accurately classify a growing area as Approved, Conditionally Approved, Restricted, Conditionally Restricted, or Prohibited. A sanitary survey is an in-depth evaluation of all environmental factors impacting water quality in a shellfish growing area. Environmental factors include both actual and potential pollutant sources, whether natural or man-made, along with meteorological and hydrographic characteristics of the growing area. The principal components of a sanitary survey are: (1) identification and evaluation of pollutant sources, (2) evaluation of meteorological factors, (3) evaluation of hydrographic factors affecting the distribution of pollutants, and (4) assessment of water quality.

The sanitary survey includes data and results from the following:

1. Shoreline survey;
2. Survey of the bacteriological quality of the water;
3. Evaluation of meteorological, hydrodynamic, and geographic characteristics of the growing area;
4. Analysis of shoreline survey, bacteriological water quality, and meteorological, hydrodynamic, and geographic characteristics; and
5. Determination of the appropriate growing area classification.

Maintaining updated sanitary survey records consists primarily of routinely evaluating major pollutant sources, collecting water quality data from sampling stations under the selected NSSP water quality monitoring strategy, and analyzing the data to ensure that the classification continues to represent current sanitary conditions in the growing area. The entire sanitary survey process must be repeated every 12 years. In the interim, the sanitary quality of each growing area must be reviewed as often as necessary to ensure appropriate classification. Certain sanitary survey components are required by the Model Ordinance to be updated annually and triennially.

The growing area classification and supporting data from the sanitary survey shall be reviewed at least every three years. As required by the NSSP, this triennial re-evaluation shall include:

1. A review of water quality sampling results;
2. Documentation of any new pollutant sources and evaluation of their impact on the growing area;
3. Re-evaluation of all pollutant sources, including sources previously identified in the sanitary survey, as necessary to fully evaluate any changes in the sanitary conditions of the growing area. Re-evaluation may or may not include a site visit;
4. A comprehensive report analyzing the sanitary survey data and determining whether the existing growing area classification is accurate or requires revision; and
5. Reclassification of the growing area if re-evaluation determines that conditions for classification have changed based on data collected during the triennial review.

NSSP also requires that the sanitary survey be updated annually to reflect changes in conditions in the growing area. The annual re-evaluation shall include:

1. Field observation of pollutant sources during drive-through surveys, sample collections, or other information sources;
2. Addition and review of current year's water quality sampling results to a database collected in accordance with the bacteriological standards and sample collection required;
3. Review of available inspection reports and effluent samples collected from pollutant sources;
4. Review of available performance standards for various types of discharges impacting the growing area; and
5. A brief report documenting annual re-evaluation findings.

The most recent annual re-evaluation for the Shellfish Growing Waters in the City of Norwalk was published in 2014 using data collected from 2011-2013 (Norwalk, 2013). According to this report, no growing areas are candidates for re-classification. The report also notes remediation efforts initiated by the City of Norwalk. In 2012 the City of Norwalk installed new equipment to improve water treatment at the WPCF.

Other efforts have been taken by Norwalk and Westport to reduce bacteria to its surface waters. There are multiple groups, both public and private, that work to improve water quality in the estuary. For more information please refer to these organizations and documents pertaining to the area.

Harbor Watch: www.harborwatch.org

Norwalk Shellfish Commission: norwalkct.org/1064/Shellfish-Commission

Norwalk Harbor Management Commission: norwalkct.org/1038/Harbor-Management-Commission

www.norwalkct.org/DocumentCenter/View/13498/Water-Quality-Bacterial-Analysis--Final-Report-6218

www.norwalkct.org/DocumentCenter/View/13499/Yankee-Doodle-Bridge-Stormwater--Report-Final-6218

Norwalk Water Quality Committee: www.norwalkct.org/Archive.aspx?AMID=103

Norwalk Harbor Management Plan: norwalkct.org/963/Harbor-Management-Plan

Norwalk Plan of Conservation and Development: www.norwalkct.org/DocumentCenter/View/389/Plan-of-Conservation-and-Development?bidId

As indicated previously, Norwalk and Westport are regulated under the MS4 program. The MS4 General Permit is required for any municipality with urbanized areas that initiates, creates, originates or maintains any discharge of stormwater from a storm sewer system to waters of the State. The MS4 permit requires towns to design a Stormwater Management Plan (SMP) that reduces the discharge of stormwater pollutants to improve water quality. The plan must address the following six minimum measures:

1. Public Education and Outreach.
2. Public Involvement/Participation.
3. Illicit discharge detection and elimination.
4. Construction site stormwater runoff control.
5. Post-construction stormwater management in the new development and redevelopment.
6. Pollution prevention/good housekeeping for municipal operations.

Each municipality is also required to submit an annual update outlining steps taken to meet the six minimum measures. The most recent updates that address stormwater contamination in the watershed are summarized in Tables 9 and 10.

Table 9: Summary of MS4 requirement updates from Norwalk, CT (Permit # GSM000024)

Minimum Measure	Norwalk Annual Report (2015)
Public Outreach and Education	<p>1) The City of Norwalk works in partnership with local businesses and community organizations such as Norwalk River Watershed Initiative, Maritime Aquarium and Soundkeeper to provide public education and outreach.</p> <p>2) Norwalk Conservation office website has information on stormwater impacts and low impact development.</p> <p>3) There is educational material available on the City's website about stormdrains, septic systems, pet waste, wetland planting and buffers</p>
Public Involvement and Participation	<p>1) Sponsored annual DPW Open House for public participation.</p> <p>2) Continue working with the Norwalk River Watershed Initiative, Maritime Aquarium and Soundkeeper to provide public participation and involvement.</p> <p>3) Boy Scouts volunteers have applied stenciling to catch basins</p>
	<p>1) The City continues to work on mapping storm drainage system</p> <p>2) The Harbor Watch program of Earthwatch has assisted the City with illicit discharge detection, multiple sources of leaking sewage were detected and repairs have been done by the City and by individual homeowners</p>
Construction Site Stormwater Runoff Control	<p>1) The Planning Commission continues to update the Plan of Conservation & Development as required by State law.</p> <p>2) The Planning and Zoning Department continuously mandates the submissions of erosion and sedimentation control and stormwater control measures for all construction activities. Staff monitors to assure correct installation and maintenance of all controls</p>
Post Construction Stormwater Management	The Planning and Zoning Department requires submittal of plans and continues to require standards for removal of oil, grit and other material from stormwater.
Pollution Prevention and Good Housekeeping	<p>1) Street sweeping program swept 325 lane miles of streets annually.</p> <p>2) City owned vacuum trucks cleaned 1,335 tons of debris from storm drain pipes and catch basins.</p> <p>3) City owned closed circuit television inspects pipes</p> <p>4) Public Works routinely clears debris from 17 critical inlets and outlets before major storms, primarily to prevent flooding</p> <p>5) City employees a Litter ambassador during the warmer months to clean up, litter and debris from sidewalks</p>

Table 10: Summary of MS4 requirement updates from Westport, CT (Permit # GSM000026)

Minimum Measure	Westport Annual Report Update (2014)
Public Outreach and Education	1) Utilizes town website to post educational material and information about the Phase II program. 2) Posted educational information about the Phase II program on bulletin board outside Public Works office.
Public Involvement and Participation	The Town has asked for volunteers to assist in education and outreach
Illicit Discharge Detection and Elimination	1) Mapped all outfalls greater than 12". 2) Working on an illicit discharge ordinance, as well as sediment and erosion control ordinance and a stormwater ordinance. They are having trouble with inability to gain access to private property to test and maintain drainage structures
Construction Site Stormwater Runoff Control	1) Reestablished the Construction Site Monitoring program, the Town filled a part-time erosion and sediment control inspector position. 2) Incorporated sediment and erosion control inspections and enforcement into job responsibilities of Conservation and Zoning enforcement officers.
Post Construction Stormwater management	1) Insists all development and redevelopment projects consider water quality in their design. 2) The town encourages the use of rain gardens and bio-filtration of stormwater
Pollution Prevention and Good Housekeeping	1) All town-owned streets are swept annually and high traffic areas are swept weekly. 2) Reduced the amount of sand used on town roads during winter storms.

RECOMMENDED NEXT STEPS

Norwalk and Westport have developed and implemented programs to protect water quality from bacterial contamination. Future mitigation activities are necessary to ensure the long-term protection of Segments 1 – 7 in the Norwalk Estuary and have been prioritized below. The 2011 Norwalk River Watershed Based Plan briefly discusses shellfish impairments within the estuary, and specifies current management activities and recommended next steps pertaining to impaired freshwater segments that directly affect the Norwalk Estuary (norwalkriver.org/wp-content/uploads/2018/11/NorwalkNorwalk_finalWBP_8-2011_take2_reduced.pdf).

1) Continue monitoring of permitted sources.

There are 28 permitted sources in the Norwalk Estuary, some of which have shown historically high bacteria concentrations. Further monitoring will provide information essential to better locate, understand, and reduce pollution sources. If any current monitoring is not done with appropriate bacterial indicator based on the receiving water, then a recommended change during the next permit reissuance is to include the

appropriate indicator species. If facility monitoring indicates elevated bacteria, then implementation of permit is required, and any voluntary measures to identify and reduce sources of bacterial contamination at the facility are also recommended. Regular monitoring should be established for all permitted sources to ensure compliance with permit requirements and to determine if current requirements are adequate or if additional measures are necessary for water quality protection.

The General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), effective July 1, 2017 requires some additional control measures for outfalls that discharge into impaired waters with or without a TMDL. In addition, waterbodies that are subject to an approved TMDL should be given priority when investigating illicit discharges. Section 6(k) of the MS4 Permit requires a municipality that discharges stormwater into impaired waters with or without a TMDL to perform monitoring based on the pollutant of concern. The sample shall be analyzed for the pollutants identified as the cause of the impairment. If phosphorus, nitrogen, bacteria or mercury are the stormwater pollutants of concern, control measures and outfall monitoring is required to investigate and target potential sources of these pollutants. Additional BMPs may be required to address areas with sample results showing elevated levels of the pollutant(s) of concern. In the case of bacteria related impairments municipal BMPs could include: implementation or improvement to existing nuisance wildlife programs, septic system monitoring programs, any additional measures that can be added to the required illicit discharge detection and elimination (IDDE) programs, and increased street sweeping above basic permit requirements. Any non-MS4 municipalities can implement these same types of initiatives in effort to reduce bacteria source loading to impaired waterways. For all other impairments Section 6(i)(1)C requires monitoring for turbidity at the outfall and immediately upstream of the outfall. Implementation of control measures is required if the turbidity at the outfall is 5 or more NTUs greater than the turbidity upstream. The permittee shall implement BMPs as necessary to achieve the Waste Load Allocation, Load Allocation or Water Quality Targets specified within the TMDL. Please see the current MS4 permit for information www.ct.gov/deep/municipalstormwater.

Any facilities regulated by CTDEEP that discharge non-MS4 regulated stormwater should update their Pollution Prevention Plan to reflect BMPs that can reduce bacteria loading to the receiving waterway. These BMPs could include nuisance wildlife control programs and any installations that increase surface infiltration to reduce overall stormwater volumes.

Tables 11 and 12 detail the appropriate bacteria criteria for use as waste load allocations established by this TMDL for use as water quality targets by permittees as permits are renewed and updated, within the Norwalk Estuary.

Table 11. Bacteria (Enterococci) TMDLs, WLAs, and LAs for Recreational Uses.

		Instantaneous Enterococcus (#/100mL)				Geometric Mean Enterococcus (#/100mL)	
Class	Bacteria Source	WLA ⁶		LA ⁶		WLA ⁶	LA ⁶
	Recreational Use	1	2	1	3	All	All
SA ⁵	Illicit sewer connection	0	0			0	
	Leaking sewer lines	0	0			0	
	Stormwater (MS4s)	104 ⁷	500 ⁷			35 ⁷	
	Stormwater (non-MS4)			104 ⁷	500 ⁷		35 ⁷
	Wildlife direct discharge			104 ⁷	500 ⁷		35 ⁷
	Human or domestic animal direct discharge ³			104	500		35
SB ⁵	Non-Stormwater NPDES	104	500			35	
	CSOs	104	500			35	
	SSOs	0	0			0	
	OBDs ⁴	0	0			0	
	Illicit sewer connection	0	0			0	
	Leaking sewer lines	0	0			0	
	Stormwater (MS4s)	104 ⁷	500 ⁷			35 ⁷	
	Stormwater (non-MS4)			104 ⁷	500 ⁷		35 ⁷
	Wildlife direct discharge			104 ⁷	500 ⁷		35 ⁷
	Human or domestic animal direct discharge ³			104	500		35

- (1) **Designated Swimming.** Procedures for monitoring and closure of bathing areas by State and Local Health Authorities are specified in: Guidelines for Monitoring Bathing Waters and Closure Protocol, adopted jointly by the Department of Environmental Protections and the Department of Public Health. May 1989. Revised April 2003 and updated December 2008.
- (2) **Non-Designated Swimming.** Includes areas otherwise suitable for swimming but which have not been designated by State or Local authorities as bathing areas, waters which support tubing, water skiing, or other recreational activities where full body contact is likely.
- (3) **All Other Recreational Uses.**
- (4) Criteria for the protection of recreational uses in Class B waters do not apply when disinfection of sewage treatment plant effluents is not required consistent with Standard 23. (Class B surface waters located north of Interstate Highway I-95 and downstream of a sewage treatment plant providing seasonal disinfection May 1 through October 1, as authorized by the Commissioner.)
- (5) Human direct discharge = swimmers
- (6) Unless otherwise required by statute or regulation, compliance with this TMDL will be based on ambient concentrations and not end-of-pipe bacteria concentrations
- (7) Replace numeric value with "natural levels" if only source is naturally occurring wildlife. Natural is defined as the biological, chemical and physical conditions and communities that occur within the environment which are unaffected or minimally affected by human influences (CTDEEP 2011). Sections 2.2.2 and 6.2.7 of this Core Document deal with BMPs and delineating type of wildlife inputs.

Table 12: Bacteria (Fecal Coliform) TMDLs WLAs, and LAs for Shellfish Harvesting Areas.

Class	Bacteria Source ¹	Geometric Mean Fecal coliform (#/100mL) ⁴		90% less than Fecal Coliform (#/100mL) ⁴	
		WLA ⁵	LA ⁵	WLA ⁵	LA ⁵
SA Direct Consumption	CSOs	14		31	
	SSOs	0		0	
	OBDs ³	0		0	
	Illicit sewer connection	0		0	
	Leaking sewer lines	0		0	
	Stormwater (MS4s)	14 ⁶		31 ⁶	
	Stormwater (non-MS4)		14 ⁶		31 ⁶
	Wildlife direct discharge		14 ⁶		31 ⁶
	Human or domestic animal direct discharge ²		14		31
SB Indirect Consumption	Non-Stormwater NPDES	88		260	
	CSOs	88		260	
	SSOs	0		0	
	OBDs ³	0		0	
	Illicit sewer connection	0		0	
	Leaking sewer lines	0		0	
	Stormwater (MS4s)	88 ⁶		260 ⁶	
	Stormwater (non-MS4)		88 ⁶		260 ⁶
	Wildlife direct discharge		88 ⁶		260 ⁶
	Human or domestic animal direct discharge ²		88		260

- (1) Criteria are based on utilizing the mTec method as specified in the U.S. Food and Drug Administration National Shellfish Sanitation Program-Model Ordinance (NSSP-MO) document *Guide for the Control of Molluscan Shellfish 2007*.
- (2) Human direct discharge = swimmers
- (3) All coastal and inland waters in Connecticut are designated as No Discharge Areas for Overboard Discharges (OBDs) from marine vessels with Marine Sanitation Devices.
- (4) Adverse Condition Allocations apply to areas affected by Point Sources. Adverse Condition or Random Sampling Allocations apply to areas affected by Nonpoint Sources. Adverse condition is defined as "... a State or situation caused by meteorological, hydrological or seasonal events or point source discharges that has historically resulted in elevated [bacteria] levels in the particular growing area." USFDA 2005
- (5) Unless otherwise required by statute or regulation, compliance with this TMDL will be based on ambient concentrations and not end-of-pipe bacteria concentrations
- (6) Replace numeric value with "natural levels" if only source is naturally occurring wildlife. Natural is defined as the biological, chemical and physical conditions and communities that occur within the environment which are unaffected or minimally affected by human influences (CTDEEP 2011). Sections 2.2.2 and 6.2.7 of this Core Document deal with BMPs and delineating type of wildlife inputs.

2) Identify areas in Norwalk and Westport to implement Best Management Practices (BMPs) to control stormwater runoff.

As noted previously, most of Norwalk and Westport near the Norwalk Estuary have impervious cover greater than 16% and are urban areas regulated under the MS4 program. As such, stormwater runoff is likely contributing bacteria to the Norwalk Estuary. To identify areas that are contributing bacteria to the impaired segments, municipalities should conduct wet-weather sampling at stormwater outfalls that discharge directly to the impaired segments in Norwalk Estuary. To manage stormwater runoff, the towns should identify areas along the developed sections of the impaired segments to install BMPs designed to encourage stormwater to infiltrate the ground before entering the waterbodies. These BMPs would disconnect impervious areas and reduce pollutant loads to the estuary. More detailed information and BMP recommendations can be found in the core TMDL document.

3) Implement a program to evaluate the sanitary sewer system.

Most of Norwalk and Westport near the estuary rely on a municipal sewer system (Figure 4). It is important for Norwalk and Westport to develop a program to evaluate its sanitary sewer system and reduce leaks and overflows. This program should include periodic inspections of the sewer line.

4) Develop a system to monitor septic systems.

Although the majority of residents near the Norwalk Estuary rely on a municipal sanitary sewer system, some rely on septic systems. If not already in place, Norwalk and Westport should establish a program to ensure that existing septic systems are properly operated and maintained. For instance, communities can create an inventory of existing septic systems through mandatory inspections. Inspections help encourage proper maintenance and identify failed and sub-standard systems. Policies that govern the eventual replacement of the sub-standard systems within a reasonable timeframe could be adopted. Municipalities can also develop programs to assist citizens with the replacement and repair of older and failing systems.

5) Evaluate municipal education and outreach programs regarding animal waste.

Any education and outreach program should highlight the importance of not feeding waterfowl and wildlife and managing waste from horses, dogs, and other pets. Municipalities and residents can take measures to minimize waterfowl-related impacts by allowing tall, coarse vegetation to grow in riparian areas of impaired segments frequented by waterfowl. Waterfowl, especially grazers like geese, prefer easy access to water. Maintaining an uncut vegetated buffer along the shore will make the habitat less desirable to geese and encourage migration. In addition, any educational program should emphasize that feeding waterfowl, such as ducks, geese, and swans, may contribute to water quality impairments in the Norwalk Estuary and can harm human health and the environment. Animal wastes should be disposed of away from any waterbody or storm drain system. BMPs effective at reducing the impact of animal waste on water quality include installing signage, providing pet waste receptacles in high-use areas, enacting ordinances requiring the clean-up of pet waste, and targeting educational and outreach programs in problem areas.

6) Improve education and outreach programs regarding boats and marinas.

Marinas must comply with permit requirements that limit bacteria contribution to the Norwalk Estuary. Other programs, such as Connecticut's Clean Marina Program, may also be adopted by all marinas in the estuary to reduce bacteria contribution from non-point source pollution from marinas (www.ct.gov/deep/cleanmarina). The Clean Marina Program is a voluntary program that encourages inland and coastal marina operators to minimize pollution, and recognizes Connecticut marinas, boatyards, and yacht clubs that go above and beyond regulatory compliance as "Certified Clean Marinas." While the Clean Marina Program is not currently accepting new pledges or conducting recertifications, educational materials

are provided on the CT DEEP website. Marinas are encouraged to review and apply these recommendations at their facility, as appropriate, to minimize pollution from their site. All previously certified marinas receive a weatherproof Clean Marina Flag to fly at their facility and authorization to use the Clean Marina Program logo on company publications. CT DEEP recognized certified Clean Marinas through press releases, on its web page, and at public events. As a companion to the Clean Marina Program, the Clean Boater Program (www.ct.gov/deep/cwp/view.asp?a=2705&q=323526) encourages boaters to use clean boating techniques when operating and maintaining their boats

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BACTERIA DATA AND PERCENT REDUCTIONS TO MEET THE TMDL**Table 13: Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach) Bacteria Data****Waterbody ID:** CT-W1_013-SB**Characteristics:** Saltwater, Class SB, Commercial Shellfishing Harvesting, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Recreation (*enterococci bacteria*)**Water Quality Criteria for enterococci:**

Geometric Mean: 35 colonies/100 mL

Single Sample: 104 colonies/100 mL (designated beach)

Percent Reduction to meet TMDL:Geometric Mean: **34%**Single Sample: **99%****Data:** 2004 – 2007; 2009 - 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample enterococci data (colonies/100 mL) from all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB) with annual geometric means calculated**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean
Norwalk Harbor	Marvin Beach - Norwalk	5/20/2004	20	dry	24
Norwalk Harbor	Marvin Beach - Norwalk	5/26/2004	90	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/1/2004	134	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/2/2004	30	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/7/2004	85	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/14/2004	91	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/21/2004	238	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/22/2004	52	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/28/2004	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/6/2004	52	wet	
Norwalk Harbor	Marvin Beach - Norwalk	7/12/2004	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/19/2004	10	wet	
Norwalk Harbor	Marvin Beach - Norwalk	7/26/2004	1	wet	
Norwalk Harbor	Marvin Beach - Norwalk	8/2/2004	20	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/9/2004	30	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/17/2004	30	wet	
Norwalk Harbor	Marvin Beach - Norwalk	8/25/2004	30	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/30/2004	52	dry	

Single sample enterococci data (colonies/100 mL) from all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB) with annual geometric means calculated (continued)

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean
Norwalk Harbor	Marvin Beach - Norwalk	5/28/2005	1	dry	39
Norwalk Harbor	Marvin Beach - Norwalk	6/1/2005	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/6/2005	61	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/15/2005	10	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/20/2005	10	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/27/2005	390	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/28/2005	2651	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/29/2005	801	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/30/2005	10111* (99%)	wet	
Norwalk Harbor	Marvin Beach - Norwalk	7/5/2005	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/11/2005	10	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/18/2005	166	wet	
Norwalk Harbor	Marvin Beach - Norwalk	7/19/2005	96	wet	
Norwalk Harbor	Marvin Beach - Norwalk	7/25/2005	173	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/26/2005	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/1/2005	1	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/8/2005	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/15/2005	4352	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/16/2005	20	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/22/2005	41	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/29/2005	41	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	5/23/2006	51	dry**	53* (34%)
Norwalk Harbor	Marvin Beach - Norwalk	5/30/2006	41	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/7/2006	399	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/12/2006	97	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/20/2006	41	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/26/2006	299	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/27/2006	215	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	7/5/2006	74	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/10/2006	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/20/2006	63	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/24/2006	72	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/31/2006	30	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/8/2006	41	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/14/2006	21	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/21/2006	21	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/28/2006	10	wet**	

Single sample enterococci data (colonies/100 mL) from all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB) with annual geometric means calculated (continued)

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean
Norwalk Harbor	Marvin Beach - Norwalk	5/22/2007	1	dry**	22
Norwalk Harbor	Marvin Beach - Norwalk	5/29/2007	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/5/2007	40	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/13/2007	52	wet	
Norwalk Harbor	Marvin Beach - Norwalk	6/18/2007	30	dry	
Norwalk Harbor	Marvin Beach - Norwalk	6/25/2007	74	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/9/2007	52	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/16/2007	1	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/20/2007	20	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/25/2007	120	dry	
Norwalk Harbor	Marvin Beach - Norwalk	7/31/2007	51	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/9/2007	142	wet	
Norwalk Harbor	Marvin Beach - Norwalk	8/13/2007	20	dry	
Norwalk Harbor	Marvin Beach - Norwalk	8/27/2007	10	dry	
Norwalk Harbor	Marvin Beach - Norwalk	5/16/2009	10	dry**	21
Norwalk Harbor	Marvin Beach - Norwalk	6/1/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/2/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/8/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/15/2009	226	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/16/2009	96	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/22/2009	20	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/29/2009	121	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/6/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/13/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/20/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/27/2009	10	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/3/2009	71	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/10/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/17/2009	20	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/24/2009	108	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	8/25/2009	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/31/2009	10	dry**	

Single sample enterococci data (colonies/100 mL) from all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB) with annual geometric means calculated (continued)

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean
Norwalk Harbor	Marvin Beach - Norwalk	5/24/2010	52	dry**	33
Norwalk Harbor	Marvin Beach - Norwalk	6/1/2010	187	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/2/2010	10	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/7/2010	74	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/14/2010	20	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	6/21/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	6/28/2010	31	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/5/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/13/2010	95	wet**	
Norwalk Harbor	Marvin Beach - Norwalk	7/19/2010	63	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	7/26/2010	63	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/2/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/9/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/16/2010	52	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/18/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/24/2010	681	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/25/2010	10	dry**	
Norwalk Harbor	Marvin Beach - Norwalk	8/30/2010	30	dry**	

Single sample enterococci data (colonies/100 mL) from all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB) with annual geometric means calculated (continued)

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean
Norwalk Harbor	Marvin Beach - Norwalk	5/31/2011	10	unknown	25
Norwalk Harbor	Marvin Beach - Norwalk	6/6/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	6/14/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	6/20/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	6/27/2011	41	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	7/5/2011	73	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	7/11/2011	63	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	7/18/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	7/25/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/1/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/8/2011	205	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/9/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/17/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/22/2011	131	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/24/2011	10	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/30/2011	156	unknown	
Norwalk Harbor	Marvin Beach - Norwalk	8/31/2011	84	unknown	

Shaded cells indicate an exceedance of water quality criteria

**** Weather conditions for selected data from Hartford because local station (Stamford) had missing data**

***Indicates geometric mean and single sample values used to calculate the percent reduction**

Wet and dry weather geometric mean values for all monitoring stations on Segment 1: LIS WB Inner – Norwalk Harbor (Marvin Beach, CT-W1_013-SB)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
Norwalk Harbor	Marvin Beach - Norwalk	2004 - 2011	36	69	25	77	14

Shaded cells indicate an exceedance of water quality criteria

Weather conditions from rain gauge in Stamford, CT (with selected data taken from Hartford because local station had missing data)

Table 14: Segment 2: LIS WB Shore – Canfield Island Bacteria Data**Waterbody ID:** CT-W2_011**Characteristics:** Saltwater, Class SA, Shellfishing Harvesting for Direct Human Consumption, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Shellfish Harvesting (*fecal coliform bacteria*)**Water Quality Criteria for fecal coliform:**

Geometric Mean: 14 colonies/100 mL
 90% of samples less than: 31 colonies/100 mL

Percent Reduction to meet TMDL:

Geometric Mean: NA
 90% of samples less than: 23%

Data: 2000 – 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 2: LIS WB Shore – Canfield Island (CT-W2_011) with annual geometric means and reduction goals for samples**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-17.0	Bermuda Lagoon at "elbow"	2/16/2000	2	wet	4	15
158-17.0	Bermuda Lagoon at "elbow"	5/15/2000	2	wet		
158-17.0	Bermuda Lagoon at "elbow"	6/21/2000	2	dry		
158-17.0	Bermuda Lagoon at "elbow"	9/13/2000	36	wet		
158-17.0	Bermuda Lagoon at "elbow"	1/23/2001	2	dry	6	10
158-17.0	Bermuda Lagoon at "elbow"	2/7/2001	2	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/14/2001	14	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/28/2001	51	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/30/2001	4	dry		
158-17.0	Bermuda Lagoon at "elbow"	1/9/2002	14	dry	11	NA
158-17.0	Bermuda Lagoon at "elbow"	10/28/2002	8	wet		
158-17.0	Bermuda Lagoon at "elbow"	4/29/2003	2	dry	7	NA
158-17.0	Bermuda Lagoon at "elbow"	6/11/2003	18	dry		
158-17.0	Bermuda Lagoon at "elbow"	8/6/2003	18	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/19/2003	4	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/23/2004	6	wet	NA	NA
158-17.0	Bermuda Lagoon at "elbow"	8/16/2005	8	wet	NA	NA

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 2: LIS WB Shore – Canfield Island (CT-W2_011) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-17.0	Bermuda Lagoon at "elbow"	8/11/2008	1	dry	6	23
158-17.0	Bermuda Lagoon at "elbow"	9/10/2008	4	wet		
158-17.0	Bermuda Lagoon at "elbow"	9/16/2008	65	wet		
158-17.0	Bermuda Lagoon at "elbow"	4/2/2009	1	dry	1	NA
158-17.0	Bermuda Lagoon at "elbow"	4/22/2009	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	6/10/2009	10	wet		
158-17.0	Bermuda Lagoon at "elbow"	6/29/2009	4	dry		
158-17.0	Bermuda Lagoon at "elbow"	7/28/2009	1	dry		
158-17.0	Bermuda Lagoon at "elbow"	8/3/2009	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/26/2009	1	dry		
158-17.0	Bermuda Lagoon at "elbow"	8/31/2009	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	9/15/2009	1	dry		
158-17.0	Bermuda Lagoon at "elbow"	11/16/2009	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	3/17/2010	1	wet	2	NA
158-17.0	Bermuda Lagoon at "elbow"	5/4/2010	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	5/19/2010	7	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/17/2010	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	8/25/2010	4	wet		
158-17.0	Bermuda Lagoon at "elbow"	9/16/2010	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	12/13/2010	4	wet		
158-17.0	Bermuda Lagoon at "elbow"	12/16/2010	1	wet		
158-17.0	Bermuda Lagoon at "elbow"	4/19/2011	1	wet	2	NA
158-17.0	Bermuda Lagoon at "elbow"	4/26/2011	1	dry		
158-17.0	Bermuda Lagoon at "elbow"	5/23/2011	5	wet		
158-17.0	Bermuda Lagoon at "elbow"	6/27/2011	1	dry		
158-17.0	Bermuda Lagoon at "elbow"	7/20/2011	3	wet		
158-18.0	entrance to Bermuda Lagoon	2/16/2000	4	wet	2	NA
158-18.0	entrance to Bermuda Lagoon	5/15/2000	2	wet		
158-18.0	entrance to Bermuda Lagoon	6/21/2000	2	dry		
158-18.0	entrance to Bermuda Lagoon	9/13/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 2: LIS WB Shore – Canfield Island (CT-W2_011) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-18.0	entrance to Bermuda Lagoon	1/23/2001	4	dry	12	19
158-18.0	entrance to Bermuda Lagoon	2/7/2001	4	wet		
158-18.0	entrance to Bermuda Lagoon	8/14/2001	51	wet		
158-18.0	entrance to Bermuda Lagoon	8/15/2001	14	wet		
158-18.0	entrance to Bermuda Lagoon	8/16/2001	18	dry		
158-18.0	entrance to Bermuda Lagoon	8/28/2001	50	wet		
158-18.0	entrance to Bermuda Lagoon	8/30/2001	4	dry		
158-18.0	entrance to Bermuda Lagoon	1/9/2002	18	dry	4	NA
158-18.0	entrance to Bermuda Lagoon	5/22/2002	2	dry		
158-18.0	entrance to Bermuda Lagoon	10/28/2002	2	wet		
158-18.0	entrance to Bermuda Lagoon	2/26/2003	2	wet	5	NA
158-18.0	entrance to Bermuda Lagoon	4/29/2003	2	dry		
158-18.0	entrance to Bermuda Lagoon	6/11/2003	14	dry		
158-18.0	entrance to Bermuda Lagoon	8/6/2003	22	wet		
158-18.0	entrance to Bermuda Lagoon	8/19/2003	6	wet		
158-18.0	entrance to Bermuda Lagoon	8/23/2004	6	wet	NA	NA
158-18.0	entrance to Bermuda Lagoon	8/16/2005	32	wet	NA	90
158-18.0	entrance to Bermuda Lagoon	9/6/2006	6	dry	NA	NA
158-18.0	entrance to Bermuda Lagoon	6/18/2007	14	wet	4	NA
158-18.0	entrance to Bermuda Lagoon	6/20/2007	9	dry		
158-18.0	entrance to Bermuda Lagoon	7/9/2007	1	dry		
158-18.0	entrance to Bermuda Lagoon	9/13/2007	8	wet		
158-18.0	entrance to Bermuda Lagoon	10/30/2007	4	dry		
158-18.0	entrance to Bermuda Lagoon	12/5/2007	2	wet		
158-18.0	entrance to Bermuda Lagoon	2/20/2008	1	wet	2	NA
158-18.0	entrance to Bermuda Lagoon	8/11/2008	1	dry		
158-18.0	entrance to Bermuda Lagoon	9/10/2008	4	wet		
158-18.0	entrance to Bermuda Lagoon	9/16/2008	4	wet		
158-18.0	entrance to Bermuda Lagoon	12/15/2008	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 2: LIS WB Shore – Canfield Island (CT-W2_011) with annual geometric means and reduction goals for sample

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-18.0	entrance to Bermuda Lagoon	4/2/2009	1	dry	2	NA
158-18.0	entrance to Bermuda Lagoon	4/22/2009	3	wet		
158-18.0	entrance to Bermuda Lagoon	6/10/2009	39	wet		
158-18.0	entrance to Bermuda Lagoon	6/29/2009	4	dry		
158-18.0	entrance to Bermuda Lagoon	7/28/2009	1	dry		
158-18.0	entrance to Bermuda Lagoon	8/3/2009	2	wet		
158-18.0	entrance to Bermuda Lagoon	8/26/2009	1	dry		
158-18.0	entrance to Bermuda Lagoon	8/31/2009	2	wet		
158-18.0	entrance to Bermuda Lagoon	9/15/2009	2	dry		
158-18.0	entrance to Bermuda Lagoon	10/28/2009	2	dry		
158-18.0	entrance to Bermuda Lagoon	11/16/2009	2	wet		
158-18.0	entrance to Bermuda Lagoon	3/2/2010	1	wet	3	NA
158-18.0	entrance to Bermuda Lagoon	3/17/2010	1	wet		
158-18.0	entrance to Bermuda Lagoon	5/4/2010	5	wet		
158-18.0	entrance to Bermuda Lagoon	5/19/2010	9	wet		
158-18.0	entrance to Bermuda Lagoon	6/23/2010	4	wet		
158-18.0	entrance to Bermuda Lagoon	8/17/2010	1	wet		
158-18.0	entrance to Bermuda Lagoon	8/25/2010	16	wet		
158-18.0	entrance to Bermuda Lagoon	9/16/2010	3	wet		
158-18.0	entrance to Bermuda Lagoon	12/13/2010	5	wet		
158-18.0	entrance to Bermuda Lagoon	12/16/2010	2	wet		
158-18.0	entrance to Bermuda Lagoon	4/19/2011	1	wet	2	NA
158-18.0	entrance to Bermuda Lagoon	4/26/2011	1	dry		
158-18.0	entrance to Bermuda Lagoon	5/23/2011	12	wet		
158-18.0	entrance to Bermuda Lagoon	6/27/2011	1	dry		
158-18.0	entrance to Bermuda Lagoon	7/20/2011	1	wet		

Shaded cells indicate an exceedance of water quality criteria

Bolded Value Indicates 90% less than sample value used to calculate the percent reduction

Wet and dry weather fecal coliform (colonies/100 mL) geometric mean values for all monitoring stations on Segment 2: LIS WB Shore – Canfield Island (CT-W2_011)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
158-17.0	Bermuda Lagoon at "elbow"	2000-2005, 2007-2011	39	20	3	4	3
158-18.0	entrance to Bermuda Lagoon	2000-2011	38	21	4	4	3
Shaded cells indicate an exceedance of water quality criteria							

Table 15: Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) Bacteria Data**Waterbody ID:** CT-W2_012**Characteristics:** Saltwater, Class SA, Shellfishing Harvesting for Direct Human Consumption, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Shellfish harvesting (*fecal coliform bacteria*)**Water Quality Criteria for fecal coliform:**

Geometric Mean: 14 colonies/100 mL
 90% of samples less than: 31 colonies/100 mL

Percent Reduction to meet TMDL:

Geometric Mean: NA
 90% of samples less than: 56%

Data: 2000 - 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.4	SW Round Beach	2/16/2000	2	wet	4	NA
103-15.4	SW Round Beach	5/15/2000	22	wet		
103-15.4	SW Round Beach	6/21/2000	2	dry		
103-15.4	SW Round Beach	1/23/2001	2	dry	11	15
103-15.4	SW Round Beach	2/7/2001	8 [†]	wet		
103-15.4	SW Round Beach	8/28/2001	51	wet		
103-15.4	SW Round Beach	8/30/2001	18	dry		
103-15.4	SW Round Beach	1/9/2002	8	dry	8	NA
103-15.4	SW Round Beach	10/28/2002	8	wet		
103-15.4	SW Round Beach	2/26/2003	2	wet	12	15
103-15.4	SW Round Beach	6/17/2003	8	dry		
103-15.4	SW Round Beach	8/6/2003	51	wet		
103-15.4	SW Round Beach	8/19/2003	28	wet		
103-15.4	SW Round Beach	8/23/2004	51	wet	NA	90
103-15.4	SW Round Beach	8/16/2005	81	wet	NA	90

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.4	SW Round Beach	7/9/2007	1	dry	7	10
103-15.4	SW Round Beach	9/13/2007	10	wet		
103-15.4	SW Round Beach	10/15/2007	34	wet		
103-15.4	SW Round Beach	10/30/2007	8	wet		
103-15.4	SW Round Beach	12/5/2007	5	wet		
103-15.4	SW Round Beach	1/15/2008	24	dry	6	3
103-15.4	SW Round Beach	2/4/2008	8	dry		
103-15.4	SW Round Beach	2/20/2008	1	wet		
103-15.4	SW Round Beach	8/11/2008	2	dry		
103-15.4	SW Round Beach	9/10/2008	1	wet		
103-15.4	SW Round Beach	9/16/2008	18	wet		
103-15.4	SW Round Beach	12/15/2008	10	wet		
103-15.4	SW Round Beach	12/16/2008	40	wet		
103-15.4	SW Round Beach	4/2/2009	1	dry	4	3
103-15.4	SW Round Beach	4/22/2009	8	wet		
103-15.4	SW Round Beach	6/10/2009	9	wet		
103-15.4	SW Round Beach	8/3/2009	38	wet		
103-15.4	SW Round Beach	8/26/2009	2	dry		
103-15.4	SW Round Beach	8/31/2009	6	wet		
103-15.4	SW Round Beach	9/15/2009	3	dry		
103-15.4	SW Round Beach	10/28/2009	1	dry		
103-15.4	SW Round Beach	3/17/2010	1	wet	16	23
103-15.4	SW Round Beach	5/4/2010	45	wet		
103-15.4	SW Round Beach	5/19/2010	27	wet		
103-15.4	SW Round Beach	6/23/2010	20	wet		
103-15.4	SW Round Beach	8/17/2010	81	wet		
103-15.4	SW Round Beach	8/25/2010	9	wet		
103-15.4	SW Round Beach	6/27/2011	2	dry	NA	NA
103-15.6	off Calf Pasture Pier	2/16/2000	2	wet	4	NA
103-15.6	off Calf Pasture Pier	5/15/2000	8	wet		
103-15.6	off Calf Pasture Pier	6/21/2000	4	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.6	off Calf Pasture Pier	2/7/2001	8	wet	9	23
103-15.6	off Calf Pasture Pier	8/28/2001	51	wet		
103-15.6	off Calf Pasture Pier	8/30/2001	2	dry		
103-15.6	off Calf Pasture Pier	1/9/2002	2	dry	2	NA
103-15.6	off Calf Pasture Pier	10/28/2002	2	wet		
103-15.6	off Calf Pasture Pier	2/26/2003	14	wet	30* (53%)	56
103-15.6	off Calf Pasture Pier	8/6/2003	36	wet		
103-15.6	off Calf Pasture Pier	8/19/2003	51	wet		
103-15.6	off Calf Pasture Pier	8/23/2004	50	wet	NA	90
103-15.6	off Calf Pasture Pier	8/16/2005	74	wet	NA	90
103-15.6	off Calf Pasture Pier	7/9/2007	2	dry	5	NA
103-15.6	off Calf Pasture Pier	9/13/2007	6	wet		
103-15.6	off Calf Pasture Pier	10/30/2007	5	wet		
103-15.6	off Calf Pasture Pier	12/5/2007	9	wet		
103-15.6	off Calf Pasture Pier	1/15/2008	1	dry	2	NA
103-15.6	off Calf Pasture Pier	2/20/2008	1	wet		
103-15.6	off Calf Pasture Pier	8/11/2008	1	dry		
103-15.6	off Calf Pasture Pier	9/10/2008	25	wet		
103-15.6	off Calf Pasture Pier	9/16/2008	4	wet		
103-15.6	off Calf Pasture Pier	12/15/2008	2	wet		
103-15.6	off Calf Pasture Pier	12/23/2008	1	wet		
103-15.6	off Calf Pasture Pier	4/2/2009	1	dry	3	NA
103-15.6	off Calf Pasture Pier	4/22/2009	20	wet		
103-15.6	off Calf Pasture Pier	6/10/2009	6	wet		
103-15.6	off Calf Pasture Pier	6/29/2009	2	dry		
103-15.6	off Calf Pasture Pier	8/3/2009	8	wet		
103-15.6	off Calf Pasture Pier	8/26/2009	1	dry		
103-15.6	off Calf Pasture Pier	8/31/2009	4	wet		
103-15.6	off Calf Pasture Pier	9/15/2009	2	dry		
103-15.6	off Calf Pasture Pier	11/16/2009	1	wet		
103-15.6	off Calf Pasture Pier	12/15/2009	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.6	off Calf Pasture Pier	3/2/2010	1	wet	6	15
103-15.6	off Calf Pasture Pier	3/17/2010	1	wet		
103-15.6	off Calf Pasture Pier	5/4/2010	5	wet		
103-15.6	off Calf Pasture Pier	5/19/2010	5	wet		
103-15.6	off Calf Pasture Pier	8/17/2010	41	wet		
103-15.6	off Calf Pasture Pier	8/25/2010	70	wet		
103-15.6	off Calf Pasture Pier	12/13/2010	4	wet		
103-15.6	off Calf Pasture Pier	12/16/2010	5	dry		
103-15.6	off Calf Pasture Pier	1/19/2011	6	wet	4	NA
103-15.6	off Calf Pasture Pier	4/19/2011	7	wet		
103-15.6	off Calf Pasture Pier	4/26/2011	3	dry		
103-15.6	off Calf Pasture Pier	5/23/2011	7	wet		
103-15.6	off Calf Pasture Pier	5/26/2011	5	wet		
103-15.6	off Calf Pasture Pier	6/20/2011	1	wet		
103-15.6	off Calf Pasture Pier	6/27/2011	2	dry		
103-15.6	off Calf Pasture Pier	7/20/2011	3	wet		
103-16.0	over sandbar to Calf Pasture Island	2/16/2000	1.6	wet	3	NA
103-16.0	over sandbar to Calf Pasture Island	5/15/2000	8.1	wet		
103-16.0	over sandbar to Calf Pasture Island	6/21/2000	1.7	dry		
103-16.0	over sandbar to Calf Pasture Island	9/13/2000	3.6	wet		
103-16.0	over sandbar to Calf Pasture Island	1/23/2001	1.7	dry	5	10
103-16.0	over sandbar to Calf Pasture Island	2/7/2001	1.6	wet		
103-16.0	over sandbar to Calf Pasture Island	8/14/2001	11	wet		
103-16.0	over sandbar to Calf Pasture Island	8/28/2001	51	wet		
103-16.0	over sandbar to Calf Pasture Island	8/30/2001	1.7	dry		
103-16.0	over sandbar to Calf Pasture Island	1/9/2002	1.6	dry	2	NA
103-16.0	over sandbar to Calf Pasture Island	10/28/2002	1.6	wet		
103-16.0	over sandbar to Calf Pasture Island	2/26/2003	1.7	wet	9	23
103-16.0	over sandbar to Calf Pasture Island	6/11/2003	5.8	dry		
103-16.0	over sandbar to Calf Pasture Island	8/6/2003	51	wet		
103-16.0	over sandbar to Calf Pasture Island	8/19/2003	14	wet		
103-16.0	over sandbar to Calf Pasture Island	8/23/2004	51	wet	NA	90

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-16.0	over sandbar to Calf Pasture Island	8/16/2005	60	wet	NA	90
103-16.0	over sandbar to Calf Pasture Island	9/6/2006	28	dry	NA	NA
103-16.0	over sandbar to Calf Pasture Island	7/9/2007	5	dry	6	NA
103-16.0	over sandbar to Calf Pasture Island	9/13/2007	8	wet		
103-16.0	over sandbar to Calf Pasture Island	10/30/2007	8	wet		
103-16.0	over sandbar to Calf Pasture Island	12/5/2007	4	wet		
103-16.0	over sandbar to Calf Pasture Island	1/15/2008	4	dry	3	4
103-16.0	over sandbar to Calf Pasture Island	8/11/2008	1	dry		
103-16.0	over sandbar to Calf Pasture Island	9/10/2008	33	wet		
103-16.0	over sandbar to Calf Pasture Island	9/16/2008	1	wet		
103-16.0	over sandbar to Calf Pasture Island	12/15/2008	2	wet		
103-16.0	over sandbar to Calf Pasture Island	12/16/2008	6	wet		
103-16.0	over sandbar to Calf Pasture Island	12/23/2008	4	wet		
103-16.0	over sandbar to Calf Pasture Island	4/2/2009	1	dry	4	NA
103-16.0	over sandbar to Calf Pasture Island	4/22/2009	17	wet		
103-16.0	over sandbar to Calf Pasture Island	6/10/2009	7	wet		
103-16.0	over sandbar to Calf Pasture Island	6/29/2009	8	dry		
103-16.0	over sandbar to Calf Pasture Island	8/3/2009	6	wet		
103-16.0	over sandbar to Calf Pasture Island	8/26/2009	7	dry		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-16.0	over sandbar to Calf Pasture Island	8/31/2009	1	wet		
103-16.0	over sandbar to Calf Pasture Island	9/15/2009	1	dry		
103-16.0	over sandbar to Calf Pasture Island	10/28/2009	2	dry		
103-16.0	over sandbar to Calf Pasture Island	11/16/2009	4	wet		
103-16.0	over sandbar to Calf Pasture Island	12/15/2009	6	wet		
103-16.0	over sandbar to Calf Pasture Island	3/2/2010	1	wet	6	12
103-16.0	over sandbar to Calf Pasture Island	3/17/2010	1	wet		
103-16.0	over sandbar to Calf Pasture Island	5/4/2010	6	wet		
103-16.0	over sandbar to Calf Pasture Island	5/19/2010	8	wet		
103-16.0	over sandbar to Calf Pasture Island	6/23/2010	5	wet		
103-16.0	over sandbar to Calf Pasture Island	8/17/2010	35	wet		
103-16.0	over sandbar to Calf Pasture Island	8/25/2010	40	wet		
103-16.0	over sandbar to Calf Pasture Island	12/13/2010	4	wet		
103-16.0	over sandbar to Calf Pasture Island	12/16/2010	6	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-16.0	over sandbar to Calf Pasture Island	1/19/2011	8	wet	5	NA
103-16.0	over sandbar to Calf Pasture Island	4/19/2011	5	wet		
103-16.0	over sandbar to Calf Pasture Island	4/26/2011	1	dry		
103-16.0	over sandbar to Calf Pasture Island	5/23/2011	6	wet		
103-16.0	over sandbar to Calf Pasture Island	5/26/2011	8	wet		
103-16.0	over sandbar to Calf Pasture Island	6/20/2011	2	wet		
103-16.0	over sandbar to Calf Pasture Island	6/27/2011	7	dry		
103-16.0	over sandbar to Calf Pasture Island	7/20/2011	8	wet		
103-17.0	NW Sprite Island near Shorehaven	2/16/2000	3.6	wet	5	NA
103-17.0	NW Sprite Island near Shorehaven	5/15/2000	8.1	wet		
103-17.0	NW Sprite Island near Shorehaven	6/21/2000	1.7	dry		
103-17.0	NW Sprite Island near Shorehaven	9/13/2000	11	wet		
103-17.0	NW Sprite Island near Shorehaven	1/23/2001	1.6	dry	7	23
103-17.0	NW Sprite Island near Shorehaven	2/7/2001	1.6	wet		
103-17.0	NW Sprite Island near Shorehaven	8/14/2001	51	wet		
103-17.0	NW Sprite Island near Shorehaven	8/16/2001	14	dry		
103-17.0	NW Sprite Island near Shorehaven	8/28/2001	51	wet		
103-17.0	NW Sprite Island near Shorehaven	8/30/2001	1.6	dry		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-17.0	NW Sprite Island near Shorehaven	1/9/2002	3.6	dry	2	NA
103-17.0	NW Sprite Island near Shorehaven	10/28/2002	1.6	wet		
103-17.0	NW Sprite Island near Shorehaven	2/26/2003	1.7	wet	9	NA
103-17.0	NW Sprite Island near Shorehaven	6/11/2003	11	dry		
103-17.0	NW Sprite Island near Shorehaven	8/6/2003	22	wet		
103-17.0	NW Sprite Island near Shorehaven	8/19/2003	14	wet		
103-17.0	NW Sprite Island near Shorehaven	8/23/2004	11	wet	NA	NA
103-17.0	NW Sprite Island near Shorehaven	8/16/2005	45	wet	NA	90
103-17.0	NW Sprite Island near Shorehaven	9/6/2006	12	dry	NA	NA
103-17.0	NW Sprite Island near Shorehaven	7/9/2007	1	dry	1	NA
103-17.0	NW Sprite Island near Shorehaven	9/13/2007	4	wet		
103-17.0	NW Sprite Island near Shorehaven	10/30/2007	1	wet		
103-17.0	NW Sprite Island near Shorehaven	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-17.0	NW Sprite Island near Shorehaven	1/15/2008	1	dry	2	NA
103-17.0	NW Sprite Island near Shorehaven	2/20/2008	1	wet		
103-17.0	NW Sprite Island near Shorehaven	8/11/2008	1	dry		
103-17.0	NW Sprite Island near Shorehaven	9/10/2008	4	wet		
103-17.0	NW Sprite Island near Shorehaven	9/16/2008	1	wet		
103-17.0	NW Sprite Island near Shorehaven	12/15/2008	4	wet		
103-17.0	NW Sprite Island near Shorehaven	12/23/2008	5	wet		
103-17.0	NW Sprite Island near Shorehaven	4/2/2009	1	dry	2	NA
103-17.0	NW Sprite Island near Shorehaven	4/22/2009	2	wet		
103-17.0	NW Sprite Island near Shorehaven	6/10/2009	2	wet		
103-17.0	NW Sprite Island near Shorehaven	6/29/2009	6	dry		
103-17.0	NW Sprite Island near Shorehaven	8/3/2009	5	wet		
103-17.0	NW Sprite Island near Shorehaven	8/26/2009	1	dry		
103-17.0	NW Sprite Island near Shorehaven	8/31/2009	1	wet		
103-17.0	NW Sprite Island near Shorehaven	9/15/2009	1	dry		
103-17.0	NW Sprite Island near Shorehaven	10/28/2009	1	dry		
103-17.0	NW Sprite Island near Shorehaven	11/16/2009	1	wet		
103-17.0	NW Sprite Island near Shorehaven	12/15/2009	4	wet		
103-17.0	NW Sprite Island near Shorehaven	3/2/2010	1	wet	3	NA
103-17.0	NW Sprite Island near Shorehaven	3/17/2010	1	wet		
103-17.0	NW Sprite Island near Shorehaven	5/4/2010	5	wet		
103-17.0	NW Sprite Island near Shorehaven	5/19/2010	12	wet		
103-17.0	NW Sprite Island near Shorehaven	6/23/2010	1	wet		
103-17.0	NW Sprite Island near Shorehaven	8/17/2010	3	wet		
103-17.0	NW Sprite Island near Shorehaven	8/25/2010	6	wet		
103-17.0	NW Sprite Island near Shorehaven	12/13/2010	2	wet		
103-17.0	NW Sprite Island near Shorehaven	12/16/2010	2	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
103-17.0	NW Sprite Island near Shorehaven	4/19/2011	2	wet	2	NA
103-17.0	NW Sprite Island near Shorehaven	4/26/2011	1	dry		
103-17.0	NW Sprite Island near Shorehaven	5/23/2011	2	wet		
103-17.0	NW Sprite Island near Shorehaven	5/26/2011	6	wet		
103-17.0	NW Sprite Island near Shorehaven	6/20/2011	1	wet		
103-17.0	NW Sprite Island near Shorehaven	6/27/2011	1	dry		
103-17.0	NW Sprite Island near Shorehaven	7/20/2011	3	wet		
Shaded cells indicate an exceedance of water quality criteria						
†Average of two duplicate samples						
*Indicates geometric mean and 90% less than values used to calculate the percent reduction						

Wet and dry weather fecal coliform (colonies/100 mL) geometric mean values for all monitoring stations on Segment 3: LIS WB Shore – Outer Norwalk Harbor (East) (CT-W2_012)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
103-15.4	SW Round Beach	2000-2005, 2007-2011	30	14	8	12	3
103-15.6	off Calf Pasture Pier	2000-2005, 2007-2011	37	13	5	6	2
103-16.0	over sandbar to Calf Pasture Island	2000-2011	40	17	5	6	3
103-17.0	NW Sprite Is./near Shorehaven	2000-2011	39	18	3	4	2
Shaded cells indicate an exceedance of water quality criteria							

Table 16: Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) Bacteria Data**Waterbody ID:** CT-W2_013**Characteristics:** Saltwater, Class SA, Shellfishing Harvesting for Direct Human Consumption, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Shellfish Harvesting (*fecal coliform bacteria*)**Water Quality Criteria for fecal coliform:**

Geometric Mean: 14 colonies/100 mL

90% of samples less than: 31 colonies/100 mL

Percent Reduction to meet TMDL:

Geometric Mean: NA

90% of samples less than: 40%

Data: 2000 – 2005; 2007 - 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013) with annual geometric means and reduction goals for samples**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.2	W. Manresa Island	2/16/2000	11	wet	4	NA
103-08.2	W. Manresa Island	5/15/2000	6	wet		
103-08.2	W. Manresa Island	6/21/2000	2	dry		
103-08.2	W. Manresa Island	9/13/2000	4	wet		
103-08.2	W. Manresa Island	1/23/2001	2	dry	4	10
103-08.2	W. Manresa Island	2/7/2001	4	wet		
103-08.2	W. Manresa Island	8/15/2001	2	wet		
103-08.2	W. Manresa Island	8/28/2001	51	wet		
103-08.2	W. Manresa Island	8/30/2001	4	dry		
103-08.2	W. Manresa Island	10/28/2002	14	wet	NA	NA
103-08.2	W. Manresa Island	2/26/2003	2	wet	2	NA
103-08.2	W. Manresa Island	8/6/2003	6	wet		
103-08.2	W. Manresa Island	8/19/2003	2	wet		
103-08.2	W. Manresa Island	8/16/2005	53	wet	NA	NA
103-08.2	W. Manresa Island	8/23/2007	1	wet	8	NA
103-08.2	W. Manresa Island	9/13/2007	22	Wet		
103-08.2	W. Manresa Island	10/15/2007	14	Wet		
103-08.2	W. Manresa Island	10/22/2007	15	Wet		
103-08.2	W. Manresa Island	10/30/2007	9	Wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.2	W. Manresa Island	2/4/2008	1	dry	5	15
103-08.2	W. Manresa Island	8/5/2008	2	dry		
103-08.2	W. Manresa Island	9/10/2008	43	wet		
103-08.2	W. Manresa Island	12/23/2008	8	wet		
103-08.2	W. Manresa Island	4/2/2009	1	dry	4	NA
103-08.2	W. Manresa Island	4/22/2009	5	wet		
103-08.2	W. Manresa Island	6/10/2009	21	wet		
103-08.2	W. Manresa Island	8/3/2009	10	wet		
103-08.2	W. Manresa Island	8/26/2009	1	dry		
103-08.2	W. Manresa Island	8/31/2009	4	wet		
103-08.2	W. Manresa Island	3/25/2010	1	wet	5	NA
103-08.2	W. Manresa Island	5/4/2010	16	wet		
103-08.2	W. Manresa Island	5/19/2010	6	wet		
103-08.2	W. Manresa Island	8/17/2010	7	wet		
103-08.2	W. Manresa Island	8/25/2010	6	wet		
103-08.2	W. Manresa Island	6/27/2011	1	dry	NA	NA
103-10.1	N"8"/C"7" channel	2/16/2000	2	wet	3	NA
103-10.1	N"8"/C"7" channel	5/15/2000	14	wet		
103-10.1	N"8"/C"7" channel	6/21/2000	3.6	dry		
103-10.1	N"8"/C"7" channel	9/13/2000	2	wet		
103-10.1	N"8"/C"7" channel	1/23/2001	2	dry	10	6
103-10.1	N"8"/C"7" channel	2/2/2001	22	dry		
103-10.1	N"8"/C"7" channel	2/7/2001	6	wet		
103-10.1	N"8"/C"7" channel	8/15/2001	14	wet		
103-10.1	N"8"/C"7" channel	8/28/2001	51	wet		
103-10.1	N"8"/C"7" channel	8/30/2001	6	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-10.1	N"8"/C"7" channel	1/9/2002	2	dry	5	NA
103-10.1	N"8"/C"7" channel	10/28/2002	14	wet		
103-10.1	N"8"/C"7" channel	2/26/2003	4	wet	13	23
103-10.1	N"8"/C"7" channel	6/17/2003	51	dry		
103-10.1	N"8"/C"7" channel	8/6/2003	51	wet		
103-10.1	N"8"/C"7" channel	8/19/2003	6	wet		
103-10.1	N"8"/C"7" channel	10/1/2003	18	dry		
103-10.1	N"8"/C"7" channel	10/2/2003	6	dry		
103-10.1	N"8"/C"7" channel	8/23/2004	51	wet	NA	90
103-10.1	N"8"/C"7" channel	8/16/2005	67	wet	27* (48%)	40
103-10.1	N"8"/C"7" channel	10/26/2005	11	wet		
103-10.1	N"8"/C"7" channel	3/5/2007	2	wet	6	4
103-10.1	N"8"/C"7" channel	8/23/2007	6	wet		
103-10.1	N"8"/C"7" channel	9/13/2007	4	wet		
103-10.1	N"8"/C"7" channel	10/15/2007	70	wet		
103-10.1	N"8"/C"7" channel	10/22/2007	4	wet		
103-10.1	N"8"/C"7" channel	10/30/2007	12	wet		
103-10.1	N"8"/C"7" channel	12/5/2007	1	wet		
103-10.1	N"8"/C"7" channel	1/15/2008	3	dry	4	4
103-10.1	N"8"/C"7" channel	2/4/2008	1	dry		
103-10.1	N"8"/C"7" channel	2/20/2008	1	wet		
103-10.1	N"8"/C"7" channel	8/5/2008	6	dry		
103-10.1	N"8"/C"7" channel	9/10/2008	46	wet		
103-10.1	N"8"/C"7" channel	12/15/2008	4	wet		
103-10.1	N"8"/C"7" channel	12/23/2008	3	wet		
103-10.1	N"8"/C"7" channel	4/2/2009	1	dry	3	3
103-10.1	N"8"/C"7" channel	4/22/2009	5	wet		
103-10.1	N"8"/C"7" channel	6/10/2009	81	wet		
103-10.1	N"8"/C"7" channel	8/3/2009	4	wet		
103-10.1	N"8"/C"7" channel	8/26/2009	1	dry		
103-10.1	N"8"/C"7" channel	8/31/2009	1	wet		
103-10.1	N"8"/C"7" channel	11/16/2009	1	wet		
103-10.1	N"8"/C"7" channel	12/15/2009	12	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
103-10.1	N"8"/C"7" channel	3/17/2010	1	wet	12	12
103-10.1	N"8"/C"7" channel	3/25/2010	8	wet		
103-10.1	N"8"/C"7" channel	5/4/2010	27	wet		
103-10.1	N"8"/C"7" channel	5/19/2010	26	wet		
103-10.1	N"8"/C"7" channel	6/23/2010	17	wet		
103-10.1	N"8"/C"7" channel	8/17/2010	81	wet		
103-10.1	N"8"/C"7" channel	8/25/2010	9	wet		
103-10.1	N"8"/C"7" channel	12/13/2010	68	wet		
103-10.1	N"8"/C"7" channel	12/16/2010	1	dry		
103-10.1	N"8"/C"7" channel	4/26/2011	1	dry	7	6
103-10.1	N"8"/C"7" channel	5/23/2011	51	wet		
103-10.1	N"8"/C"7" channel	5/26/2011	20	wet		
103-10.1	N"8"/C"7" channel	6/20/2011	14	wet		
103-10.1	N"8"/C"7" channel	6/27/2011	1	dry		
103-10.1	N"8"/C"7" channel	7/21/2011	6	dry		
Shaded cells indicate an exceedance of water quality criteria						
*Indicates geometric mean and 90% less than values used to calculate the percent reduction						

Wet and dry weather geometric mean values for all monitoring stations on Segment 4: LIS WB Shore – Outer Norwalk Harbor (West) (CT-W2_013)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
103-08.2	W. Manresa Island	2000-2003, 2005, 2007-2011	27	8	5	7	2
103-10.1	N"8"/C"7" channel	2000-2005, 2007-2011	41	17	7	10	3
Shaded cells indicate an exceedance of water quality criteria							

Table 17: Segment 5: LIS WB Shore – Wilson Cove, Farm Creek, Norwalk Bacteria Data**Waterbody ID:** CT-W2_014**Characteristics:** Saltwater, Class SA, Shellfishing Harvesting for Direct Human Consumption, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Shellfish Harvesting (*fecal coliform bacteria*)**Water Quality Criteria for fecal coliform:**

Geometric Mean: 14 colonies/100 mL
 90% of samples less than: 31 colonies/100 mL

Percent Reduction to meet TMDL:

Geometric Mean: NA
 90% of samples than: 40%

Data: 2000 - 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-07.0	Wilson Cove	2/16/2000	2	wet	4	NA
103-07.0	Wilson Cove	5/15/2000	2	wet		
103-07.0	Wilson Cove	6/21/2000	4	dry		
103-07.0	Wilson Cove	9/13/2000	28	wet		
103-07.0	Wilson Cove	1/23/2001	2	dry	5	4
103-07.0	Wilson Cove	2/2/2001	2	dry		
103-07.0	Wilson Cove	2/7/2001	8	wet		
103-07.0	Wilson Cove	4/2/2001	4	wet		
103-07.0	Wilson Cove	8/15/2001	2	wet		
103-07.0	Wilson Cove	8/28/2001	51	wet		
103-07.0	Wilson Cove	8/30/2001	8	dry		
103-07.0	Wilson Cove	1/9/2002	4	dry	4	NA
103-07.0	Wilson Cove	10/28/2002	4	wet		
103-07.0	Wilson Cove	2/26/2003	2	wet	2	NA
103-07.0	Wilson Cove	4/30/2003	2	dry		
103-07.0	Wilson Cove	6/11/2003	4	dry		
103-07.0	Wilson Cove	8/6/2003	2	wet		
103-07.0	Wilson Cove	8/19/2003	6	wet		
103-07.0	Wilson Cove	8/23/2004	14	wet	NA	NA

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-07.0	Wilson Cove	8/16/2005	81	wet	NA	90
103-07.0	Wilson Cove	9/6/2006	9	dry	NA	NA
103-07.0	Wilson Cove	7/9/2007	2	dry	2	NA
103-07.0	Wilson Cove	8/23/2007	2	wet		
103-07.0	Wilson Cove	9/13/2007	4	wet		
103-07.0	Wilson Cove	12/5/2007	1	wet		
103-07.0	Wilson Cove	2/20/2008	1	wet	3	6
103-07.0	Wilson Cove	8/11/2008	1	dry		
103-07.0	Wilson Cove	9/10/2008	51	wet		
103-07.0	Wilson Cove	9/16/2008	5	wet		
103-07.0	Wilson Cove	12/15/2008	1	wet		
103-07.0	Wilson Cove	12/23/2008	2	wet		
103-07.0	Wilson Cove	4/2/2009	1	dry	3	8
103-07.0	Wilson Cove	4/22/2009	3	wet		
103-07.0	Wilson Cove	6/10/2009	50	wet		
103-07.0	Wilson Cove	6/29/2009	1	dry		
103-07.0	Wilson Cove	8/3/2009	4	wet		
103-07.0	Wilson Cove	8/26/2009	1	dry		
103-07.0	Wilson Cove	8/31/2009	1	wet		
103-07.0	Wilson Cove	9/15/2009	3	dry		
103-07.0	Wilson Cove	10/28/2009	44	dry		
103-07.0	Wilson Cove	11/16/2009	1	wet		
103-07.0	Wilson Cove	12/15/2009	8	wet		
103-07.0	Wilson Cove	3/2/2010	1	wet	5	1
103-07.0	Wilson Cove	3/17/2010	1	wet		
103-07.0	Wilson Cove	3/25/2010	1	wet		
103-07.0	Wilson Cove	5/4/2010	30	wet		
103-07.0	Wilson Cove	5/19/2010	11	wet		
103-07.0	Wilson Cove	8/17/2010	21	wet		
103-07.0	Wilson Cove	8/25/2010	6	wet		
103-07.0	Wilson Cove	12/13/2010	41	wet		
103-07.0	Wilson Cove	12/16/2010	2	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding
103-07.0	Wilson Cove	4/19/2011	1	wet	2	NA
103-07.0	Wilson Cove	4/26/2011	1	dry		
103-07.0	Wilson Cove	5/23/2011	19	wet		
103-07.0	Wilson Cove	6/20/2011	4	wet		
103-07.0	Wilson Cove	6/27/2011	1	dry		
103-07.0	Wilson Cove	7/21/2011	1	dry		
103-07.1	North Wilson Cove	2/16/2000	3.6	wet	7	NA
103-07.1	North Wilson Cove	5/15/2000	5.8	wet		
103-07.1	North Wilson Cove	5/25/2000	22	wet		
103-07.1	North Wilson Cove	6/21/2000	1.7	dry		
103-07.1	North Wilson Cove	9/13/2000	22	wet		
103-07.1	North Wilson Cove	1/23/2001	1.6	dry	7	10
103-07.1	North Wilson Cove	2/7/2001	1.6	wet		
103-07.1	North Wilson Cove	8/15/2001	5.8	wet		
103-07.1	North Wilson Cove	8/28/2001	51	wet		
103-07.1	North Wilson Cove	8/30/2001	22	dry		
103-07.1	North Wilson Cove	10/28/2002	3.6	wet	NA	NA
103-07.1	North Wilson Cove	2/26/2003	1.6	wet	7	4
103-07.1	North Wilson Cove	4/30/2003	1.6	dry		
103-07.1	North Wilson Cove	6/11/2003	14	dry		
103-07.1	North Wilson Cove	8/6/2003	22	wet		
103-07.1	North Wilson Cove	8/19/2003	5.8	wet		
103-07.1	North Wilson Cove	10/1/2003	36	dry		
103-07.1	North Wilson Cove	10/2/2003	3.6	dry		
103-07.1	North Wilson Cove	8/16/2005	81	wet	NA	90
103-07.1	North Wilson Cove	8/23/2007	3	wet	13*	23
103-07.1	North Wilson Cove	9/13/2007	10	wet		
103-07.1	North Wilson Cove	10/15/2007	152	wet		
103-07.1	North Wilson Cove	10/22/2007	12	wet		
103-07.1	North Wilson Cove	10/30/2007	81	wet		
103-07.1	North Wilson Cove	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding
103-07.1	North Wilson Cove	2/4/2008	2	dry	6	15
103-07.1	North Wilson Cove	8/5/2008	10	dry		
103-07.1	North Wilson Cove	9/10/2008	66	wet		
103-07.1	North Wilson Cove	12/23/2008	1	wet		
103-07.1	North Wilson Cove	4/2/2009	1	dry	3	4
103-07.1	North Wilson Cove	4/22/2009	3	wet		
103-07.1	North Wilson Cove	6/10/2009	38	wet		
103-07.1	North Wilson Cove	8/3/2009	4	wet		
103-07.1	North Wilson Cove	8/26/2009	1	dry		
103-07.1	North Wilson Cove	8/31/2009	1	wet		
103-07.1	North Wilson Cove	12/15/2009	10	wet		
103-07.1	North Wilson Cove	3/25/2010	2	wet	11	10
103-07.1	North Wilson Cove	5/4/2010	15	wet		
103-07.1	North Wilson Cove	5/19/2010	16	wet		
103-07.1	North Wilson Cove	8/17/2010	37	wet		
103-07.1	North Wilson Cove	8/25/2010	10	wet		
103-07.1	North Wilson Cove	4/26/2011	1	dry	1	NA
103-07.1	North Wilson Cove	6/27/2011	1	dry		
103-08.0	East Wilson Point	2/16/2000	1.7	wet	4	NA
103-08.0	East Wilson Point	5/15/2000	11	wet		
103-08.0	East Wilson Point	6/21/2000	5.8	dry		
103-08.0	East Wilson Point	9/13/2000	1.6	wet		
103-08.0	East Wilson Point	1/23/2001	1.6	dry	5	6
103-08.0	East Wilson Point	2/2/2001	5.8	dry		
103-08.0	East Wilson Point	2/7/2001	1.7	wet		
103-08.0	East Wilson Point	8/15/2001	3.6	wet		
103-08.0	East Wilson Point	8/28/2001	51	wet		
103-08.0	East Wilson Point	8/30/2001	3.6	dry		
103-08.0	East Wilson Point	1/9/2002	3.6	dry	5	NA
103-08.0	East Wilson Point	10/28/2002	5.8	wet		
103-08.0	East Wilson Point	2/26/2003	1.6	wet	3	NA
103-08.0	East Wilson Point	4/30/2003	1.6	dry		
103-08.0	East Wilson Point	6/11/2003	5.8	dry		
103-08.0	East Wilson Point	8/6/2003	22	wet		
103-08.0	East Wilson Point	8/19/2003	1.6	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.0	East Wilson Point	8/23/2004	5.8	wet	NA	NA
103-08.0	East Wilson Point	2/20/2005	1	wet	9	40*
103-08.0	East Wilson Point	8/16/2005	81	wet		
103-08.0	East Wilson Point	9/6/2006	11	dry	NA	NA
103-08.0	East Wilson Point	7/9/2007	1	dry	1	NA
103-08.0	East Wilson Point	8/23/2007	1	wet		
103-08.0	East Wilson Point	9/13/2007	1	wet		
103-08.0	East Wilson Point	12/5/2007	5	wet		
103-08.0	East Wilson Point	8/11/2008	1	dry	4	10
103-08.0	East Wilson Point	9/10/2008	49	wet		
103-08.0	East Wilson Point	9/16/2008	16	wet		
103-08.0	East Wilson Point	12/15/2008	2	wet		
103-08.0	East Wilson Point	12/23/2008	1	wet		
103-08.0	East Wilson Point	4/2/2009	1	dry	2	NA
103-08.0	East Wilson Point	4/22/2009	2	wet		
103-08.0	East Wilson Point	6/10/2009	54	wet		
103-08.0	East Wilson Point	6/29/2009	1	dry		
103-08.0	East Wilson Point	8/3/2009	2	wet		
103-08.0	East Wilson Point	8/26/2009	1	dry		
103-08.0	East Wilson Point	8/31/2009	2	wet		
103-08.0	East Wilson Point	9/15/2009	1	dry		
103-08.0	East Wilson Point	10/28/2009	4	dry		
103-08.0	East Wilson Point	11/16/2009	1	wet		
103-08.0	East Wilson Point	12/15/2009	4	wet		
103-08.0	East Wilson Point	3/2/2010	1	wet	4	3
103-08.0	East Wilson Point	3/17/2010	1	wet		
103-08.0	East Wilson Point	5/4/2010	43	wet		
103-08.0	East Wilson Point	5/19/2010	13	wet		
103-08.0	East Wilson Point	8/17/2010	4	wet		
103-08.0	East Wilson Point	8/25/2010	1	wet		
103-08.0	East Wilson Point	12/13/2010	11	wet		
103-08.0	East Wilson Point	12/16/2010	4	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.0	East Wilson Point	4/19/2011	1	wet	2	NA
103-08.0	East Wilson Point	4/26/2011	3	dry		
103-08.0	East Wilson Point	5/23/2011	5	wet		
103-08.0	East Wilson Point	6/20/2011	14	wet		
103-08.0	East Wilson Point	6/27/2011	1	dry		
103-08.0	East Wilson Point	7/21/2011	1	dry		
Shaded cells indicate an exceedance of water quality criteria						
*Indicates geometric mean and 90% less than values used to calculate the percent reduction						

Wet and dry weather fecal coliform (colonies/100 mL) geometric mean values for all monitoring stations on Segment 5: LIS WB Shore – Wilson Cove, Farm Creek (CT-W2_014), Norwalk

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
103-07.0	Wilson Cove	2000-2011	38	19	4	5	2
103-07.1	N. Wilson Cove	2000-2003, 2005, 2007-2011	30	13	7	9	3
103-08.0	E. Wilson Pt.	2000-2011	36	19	3	4	2
Shaded cells indicate an exceedance of water quality criteria							

Table 18: Segment 6: LIS WB Midshore – Norwalk Islands Bacteria Data**Waterbody ID:** CT-W3_008-I**Characteristics:** Saltwater, Class SA, Shellfishing Harvesting for Direct Human Consumption, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Shellfish Harvesting (*fecal coliform bacteria*)**Water Quality Criteria for fecal coliform:**

Geometric Mean: 14 colonies/100 mL
 90% of samples less than: 31 colonies/100 mL

Percent Reduction to meet TMDL:

Geometric Mean: NA
 90% of samples less than: 90%

Data: 2000 - 2011 from CT DEEP targeted sampling efforts, 2012 TMDL Cycle**Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples**

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-05.2	North of Sheffield dock	2/16/2000	2	wet	2	NA
103-05.2	North of Sheffield dock	5/15/2000	2	wet		
103-05.2	North of Sheffield dock	6/21/2000	2	dry		
103-05.2	North of Sheffield dock	8/7/2000	2	dry		
103-05.2	North of Sheffield dock	9/13/2000	2	wet		
103-05.2	North of Sheffield dock	1/23/2001	2	dry	3	NA
103-05.2	North of Sheffield dock	2/2/2001	4	dry		
103-05.2	North of Sheffield dock	8/15/2001	2	wet		
103-05.2	North of Sheffield dock	8/28/2001	14	wet		
103-05.2	North of Sheffield dock	8/30/2001	4	dry		
103-05.2	North of Sheffield dock	1/9/2002	2	dry	2	NA
103-05.2	North of Sheffield dock	10/28/2002	2	wet		
103-05.2	North of Sheffield dock	2/26/2003	2	wet	2	NA
103-05.2	North of Sheffield dock	4/30/2003	2	dry		
103-05.2	North of Sheffield dock	6/11/2003	4	dry		
103-05.2	North of Sheffield dock	8/6/2003	4	wet		
103-05.2	North of Sheffield dock	8/19/2003	2	wet		

Single sample fecal coliform data (cols/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore-Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-05.2	North of Sheffield dock	8/16/2005	57	wet	NA	90
103-05.2	North of Sheffield dock	9/6/2006	1	dry	NA	NA
103-05.2	North of Sheffield dock	7/9/2007	1	dry	1	NA
103-05.2	North of Sheffield dock	8/23/2007	1	wet		
103-05.2	North of Sheffield dock	9/13/2007	1	wet		
103-05.2	North of Sheffield dock	12/5/2007	1	wet		
103-05.2	North of Sheffield dock	2/20/2008	2	wet	3	4
103-05.2	North of Sheffield dock	8/11/2008	2	dry		
103-05.2	North of Sheffield dock	9/10/2008	32	wet		
103-05.2	North of Sheffield dock	9/16/2008	5	wet		
103-05.2	North of Sheffield dock	12/15/2008	3	wet		
103-05.2	North of Sheffield dock	12/16/2008	2	wet		
103-05.2	North of Sheffield dock	12/23/2008	1	wet		
103-05.2	North of Sheffield dock	4/2/2009	1	dry	1	NA
103-05.2	North of Sheffield dock	4/22/2009	1	wet		
103-05.2	North of Sheffield dock	6/10/2009	1	wet		
103-05.2	North of Sheffield dock	6/29/2009	1	dry		
103-05.2	North of Sheffield dock	8/3/2009	4	wet		
103-05.2	North of Sheffield dock	8/26/2009	1	dry		
103-05.2	North of Sheffield dock	8/31/2009	1	wet		
103-05.2	North of Sheffield dock	9/15/2009	1	dry		
103-05.2	North of Sheffield dock	10/28/2009	1	dry		
103-05.2	North of Sheffield dock	10/29/2009	4	wet		
103-05.2	North of Sheffield dock	11/16/2009	1	wet		
103-05.2	North of Sheffield dock	12/15/2009	6	wet		
103-05.2	North of Sheffield dock	3/2/2010	1	wet	3	NA
103-05.2	North of Sheffield dock	3/17/2010	1	wet		
103-05.2	North of Sheffield dock	5/4/2010	19	wet		
103-05.2	North of Sheffield dock	5/19/2010	1	wet		
103-05.2	North of Sheffield dock	6/23/2010	10	wet		
103-05.2	North of Sheffield dock	8/17/2010	9	wet		
103-05.2	North of Sheffield dock	8/25/2010	1	wet		
103-05.2	North of Sheffield dock	12/13/2010	11	wet		
103-05.2	North of Sheffield dock	12/16/2010	4	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-05.2	North of Sheffield dock	4/19/2011	1	wet	1	NA
103-05.2	North of Sheffield dock	4/26/2011	1	dry		
103-05.2	North of Sheffield dock	5/23/2011	1	wet		
103-05.2	North of Sheffield dock	6/20/2011	1	wet		
103-05.2	North of Sheffield dock	6/27/2011	1	dry		
103-05.2	North of Sheffield dock	7/21/2011	1	dry		
103-08.1	between Tavern Island and Cedar Hammock	2/16/2000	2	wet	3	NA
103-08.1	between Tavern Island and Cedar Hammock	5/15/2000	2	wet		
103-08.1	between Tavern Island and Cedar Hammock	6/21/2000	2	dry		
103-08.1	between Tavern Island and Cedar Hammock	9/13/2000	28	wet		
103-08.1	between Tavern Island and Cedar Hammock	1/23/2001	2	dry	9	6
103-08.1	between Tavern Island and Cedar Hammock	2/2/2001	11	dry		
103-08.1	between Tavern Island and Cedar Hammock	2/7/2001	4	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/15/2001	22	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/28/2001	51	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/30/2001	6	dry		
103-08.1	between Tavern Island and Cedar Hammock	1/9/2002	4	dry	6	NA
103-08.1	between Tavern Island and Cedar Hammock	10/28/2002	11	wet		
103-08.1	between Tavern Island and Cedar Hammock	2/26/2003	2	wet	3	NA
103-08.1	between Tavern Island and Cedar Hammock	6/11/2003	2	dry		
103-08.1	between Tavern Island and Cedar Hammock	8/6/2003	8	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/23/2004	50	wet	NA	90
103-08.1	between Tavern Island and Cedar Hammock	8/16/2005	68	wet	NA	90
103-08.1	between Tavern Island and Cedar Hammock	9/6/2006	2	dry	NA	NA
103-08.1	between Tavern Island and Cedar Hammock	7/9/2007	1	dry	1	NA
103-08.1	between Tavern Island and Cedar Hammock	8/23/2007	1	wet		
103-08.1	between Tavern Island and Cedar Hammock	9/13/2007	2	wet		
103-08.1	between Tavern Island and Cedar Hammock	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.1	between Tavern Island and Cedar Hammock	4/2/2009	1	dry	3	NA
103-08.1	between Tavern Island and Cedar Hammock	4/22/2009	5	wet		
103-08.1	between Tavern Island and Cedar Hammock	6/10/2009	81	wet		
103-08.1	between Tavern Island and Cedar Hammock	6/29/2009	6	dry		
103-08.1	between Tavern Island and Cedar Hammock	8/3/2009	3	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/26/2009	1	dry		
103-08.1	between Tavern Island and Cedar Hammock	8/31/2009	1	wet		
103-08.1	between Tavern Island and Cedar Hammock	9/15/2009	1	dry		
103-08.1	between Tavern Island and Cedar Hammock	10/28/2009	4	dry		
103-08.1	between Tavern Island and Cedar Hammock	11/16/2009	1	wet		
103-08.1	between Tavern Island and Cedar Hammock	12/15/2009	2	wet		
103-08.1	between Tavern Island and Cedar Hammock	3/2/2010	1	wet	4	NA
103-08.1	between Tavern Island and Cedar Hammock	3/17/2010	1	wet		
103-08.1	between Tavern Island and Cedar Hammock	5/4/2010	7	wet		
103-08.1	between Tavern Island and Cedar Hammock	5/19/2010	15	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/17/2010	7	wet		
103-08.1	between Tavern Island and Cedar Hammock	8/25/2010	2	wet		
103-08.1	between Tavern Island and Cedar Hammock	12/13/2010	27	wet		
103-08.1	between Tavern Island and Cedar Hammock	12/16/2010	1	dry		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-08.1	between Tavern Island and Cedar Hammock	4/19/2011	1	wet	2	NA
103-08.1	between Tavern Island and Cedar Hammock	4/26/2011	1	dry		
103-08.1	between Tavern Island and Cedar Hammock	5/23/2011	10	wet		
103-08.1	between Tavern Island and Cedar Hammock	6/20/2011	7	wet		
103-08.1	between Tavern Island and Cedar Hammock	6/27/2011	3	dry		
103-08.1	between Tavern Island and Cedar Hammock	7/21/2011	1	dry		
103-09.0	R"2"/C"3" channel	2/16/2000	1.7	wet	2	NA
103-09.0	R"2"/C"3" channel	5/15/2000	1.6	wet		
103-09.0	R"2"/C"3" channel	6/21/2000	5.8	dry		
103-09.0	R"2"/C"3" channel	9/13/2000	1.7	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.0	R"2"/C"3" channel	1/23/2001	1.6	dry	5	6
103-09.0	R"2"/C"3" channel	2/2/2001	8.1	dry		
103-09.0	R"2"/C"3" channel	2/7/2001	3.6	wet		
103-09.0	R"2"/C"3" channel	8/15/2001	3.6	wet		
103-09.0	R"2"/C"3" channel	8/28/2001	51	wet		
103-09.0	R"2"/C"3" channel	8/30/2001	1.7	dry		
103-09.0	R"2"/C"3" channel	1/9/2002	1.7	dry	2	NA
103-09.0	R"2"/C"3" channel	10/28/2002	1.7	wet		
103-09.0	R"2"/C"3" channel	2/26/2003	1.6	wet	5	NA
103-09.0	R"2"/C"3" channel	6/11/2003	5.8	dry		
103-09.0	R"2"/C"3" channel	6/17/2003	22	dry		
103-09.0	R"2"/C"3" channel	8/6/2003	5.8	wet		
103-09.0	R"2"/C"3" channel	8/19/2003	1.6	wet		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.0	R"2"/C"3" channel	8/23/2004	22	wet	NA	NA
103-09.0	R"2"/C"3" channel	8/16/2005	66	wet	20	40
103-09.0	R"2"/C"3" channel	10/26/2005	6	wet		
103-09.0	R"2"/C"3" channel	9/6/2006	1	dry	NA	NA
103-09.0	R"2"/C"3" channel	3/5/2007	1	wet	1	NA
103-09.0	R"2"/C"3" channel	7/9/2007	2	dry		
103-09.0	R"2"/C"3" channel	8/23/2007	1	wet		
103-09.0	R"2"/C"3" channel	9/13/2007	1	wet		
103-09.0	R"2"/C"3" channel	12/5/2007	1	wet		
103-09.0	R"2"/C"3" channel	1/15/2008	2	dry	2	4
103-09.0	R"2"/C"3" channel	2/20/2008	1	wet		
103-09.0	R"2"/C"3" channel	8/11/2008	1	dry		
103-09.0	R"2"/C"3" channel	9/10/2008	38	wet		
103-09.0	R"2"/C"3" channel	9/16/2008	6	wet		
103-09.0	R"2"/C"3" channel	12/15/2008	1	wet		
103-09.0	R"2"/C"3" channel	12/23/2008	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.0	R"2"/C"3" channel	4/2/2009	1	dry	2	NA
103-09.0	R"2"/C"3" channel	4/22/2009	2	wet		
103-09.0	R"2"/C"3" channel	6/10/2009	30	wet		
103-09.0	R"2"/C"3" channel	6/29/2009	4	dry		
103-09.0	R"2"/C"3" channel	8/3/2009	1	wet		
103-09.0	R"2"/C"3" channel	8/26/2009	1	dry		
103-09.0	R"2"/C"3" channel	8/31/2009	1	wet		
103-09.0	R"2"/C"3" channel	9/15/2009	1	dry		
103-09.0	R"2"/C"3" channel	10/28/2009	2	dry		
103-09.0	R"2"/C"3" channel	10/29/2009	3	wet		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.0	R"2"/C"3" channel	11/16/2009	4	wet		
103-09.0	R"2"/C"3" channel	12/15/2009	4	wet		
103-09.0	R"2"/C"3" channel	3/2/2010	1	wet	3	NA
103-09.0	R"2"/C"3" channel	3/17/2010	1	wet		
103-09.0	R"2"/C"3" channel	5/4/2010	27	wet		
103-09.0	R"2"/C"3" channel	5/19/2010	10	wet		
103-09.0	R"2"/C"3" channel	6/23/2010	1	wet		
103-09.0	R"2"/C"3" channel	8/17/2010	4	wet		
103-09.0	R"2"/C"3" channel	8/25/2010	1	wet		
103-09.0	R"2"/C"3" channel	12/13/2010	6	wet		
103-09.0	R"2"/C"3" channel	12/16/2010	2	dry		
103-09.0	R"2"/C"3" channel	4/19/2011	1	wet	2	NA
103-09.0	R"2"/C"3" channel	4/26/2011	1	dry		
103-09.0	R"2"/C"3" channel	5/23/2011	1	wet		
103-09.0	R"2"/C"3" channel	6/20/2011	7	wet		
103-09.0	R"2"/C"3" channel	6/27/2011	2	dry		
103-09.0	R"2"/C"3" channel	7/21/2011	1	dry		
103-09.1	West Dog Island	2/16/2000	1.6	wet	3	NA
103-09.1	West Dog Island	5/15/2000	5.8	wet		
103-09.1	West Dog Island	6/21/2000	3.6	dry		
103-09.1	West Dog Island	8/7/2000	1.7	dry		
103-09.1	West Dog Island	9/13/2000	8.1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.1	West Dog Island	1/23/2001	2	dry	4	6
103-09.1	West Dog Island	2/2/2001	8	dry		
103-09.1	West Dog Island	2/7/2001	2	wet		
103-09.1	West Dog Island	8/15/2001	2	wet		
103-09.1	West Dog Island	8/28/2001	51	wet		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.1	West Dog Island	8/30/2001	4	dry		
103-09.1	West Dog Island	1/9/2002	6	dry	7	NA
103-09.1	West Dog Island	10/28/2002	8	wet		
103-09.1	West Dog Island	2/26/2003	2	wet	2	NA
103-09.1	West Dog Island	6/11/2003	6	dry		
103-09.1	West Dog Island	8/6/2003	2	wet		
103-09.1	West Dog Island	8/19/2003	2	wet		
103-09.1	West Dog Island	8/23/2004	28	wet	NA	NA
103-09.1	West Dog Island	8/16/2005	72	wet	NA	90
103-09.1	West Dog Island	9/6/2006	7	dry	NA	NA
103-09.1	West Dog Island	7/9/2007	1	dry	1	NA
103-09.1	West Dog Island	8/23/2007	1	wet		
103-09.1	West Dog Island	9/13/2007	1	wet		
103-09.1	West Dog Island	12/5/2007	1	wet		
103-09.1	West Dog Island	1/15/2008	1	dry	3	3
103-09.1	West Dog Island	2/20/2008	1	wet		
103-09.1	West Dog Island	8/11/2008	2	dry		
103-09.1	West Dog Island	9/10/2008	47	wet		
103-09.1	West Dog Island	9/16/2008	10	wet		
103-09.1	West Dog Island	12/15/2008	1	wet		
103-09.1	West Dog Island	12/16/2008	5	wet		
103-09.1	West Dog Island	12/23/2008	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-09.1	West Dog Island	4/2/2009	1	dry	2	NA
103-09.1	West Dog Island	4/22/2009	4	wet		
103-09.1	West Dog Island	6/10/2009	24	wet		
103-09.1	West Dog Island	6/29/2009	1	dry		
103-09.1	West Dog Island	8/3/2009	2	wet		
103-09.1	West Dog Island	8/26/2009	1	dry		
103-09.1	West Dog Island	8/31/2009	1	wet		
103-09.1	West Dog Island	9/15/2009	1	dry		
103-09.1	West Dog Island	10/28/2009	1	dry		
103-09.1	West Dog Island	11/16/2009	1	wet		
103-09.1	West Dog Island	12/15/2009	8	wet		
103-09.1	West Dog Island	3/2/2010	1	wet	2	NA
103-09.1	West Dog Island	3/17/2010	1	wet		
103-09.1	West Dog Island	5/4/2010	2	wet		
103-09.1	West Dog Island	5/19/2010	1	wet		
103-09.1	West Dog Island	8/17/2010	1	wet		
103-09.1	West Dog Island	8/25/2010	1	wet		
103-09.1	West Dog Island	12/13/2010	15	wet		
103-09.1	West Dog Island	12/16/2010	2	dry		
103-09.1	West Dog Island	4/19/2011	2	wet	1	NA
103-09.1	West Dog Island	4/26/2011	1	dry		
103-09.1	West Dog Island	5/23/2011	2	wet		
103-09.1	West Dog Island	6/20/2011	1	wet		
103-09.1	West Dog Island	6/27/2011	1	dry		
103-09.1	West Dog Island	7/21/2011	1	dry		
103-10.0	R"4"/C"5" channel	2/16/2000	2	wet	2	NA
103-10.0	R"4"/C"5" channel	5/15/2000	2	wet		
103-10.0	R"4"/C"5" channel	6/21/2000	2	dry		
103-10.0	R"4"/C"5" channel	8/7/2000	2	dry		
103-10.0	R"4"/C"5" channel	9/13/2000	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-10.0	R"4"/C"5" channel	1/23/2001	2	dry	5	6
103-10.0	R"4"/C"5" channel	2/2/2001	8	dry		
103-10.0	R"4"/C"5" channel	2/7/2001	4	wet		
103-10.0	R"4"/C"5" channel	8/15/2001	2	wet		
103-10.0	R"4"/C"5" channel	8/28/2001	51	wet		
103-10.0	R"4"/C"5" channel	8/30/2001	6	dry		
103-10.0	R"4"/C"5" channel	1/9/2002	6	dry	7	NA
103-10.0	R"4"/C"5" channel	10/28/2002	8	wet		
103-10.0	R"4"/C"5" channel	2/26/2003	2	wet	5	NA
103-10.0	R"4"/C"5" channel	6/11/2003	11	dry		
103-10.0	R"4"/C"5" channel	6/17/2003	14	dry		
103-10.0	R"4"/C"5" channel	8/6/2003	2	wet		
103-10.0	R"4"/C"5" channel	8/23/2004	28	wet	NA	NA
103-10.0	R"4"/C"5" channel	8/16/2005	81	wet	16	40
103-10.0	R"4"/C"5" channel	10/26/2005	3	wet		
103-10.0	R"4"/C"5" channel	9/6/2006	2	dry	NA	NA
103-10.0	R"4"/C"5" channel	3/5/2007	1	wet	1	NA
103-10.0	R"4"/C"5" channel	7/9/2007	1	dry		
103-10.0	R"4"/C"5" channel	8/23/2007	1	wet		
103-10.0	R"4"/C"5" channel	9/13/2007	2	wet		
103-10.0	R"4"/C"5" channel	12/5/2007	1	wet		
103-10.0	R"4"/C"5" channel	2/20/2008	1	wet	4	4
103-10.0	R"4"/C"5" channel	8/11/2008	2	dry		
103-10.0	R"4"/C"5" channel	9/10/2008	41	wet		
103-10.0	R"4"/C"5" channel	9/16/2008	7	wet		
103-10.0	R"4"/C"5" channel	12/15/2008	3	wet		
103-10.0	R"4"/C"5" channel	12/16/2008	6	wet		
103-10.0	R"4"/C"5" channel	12/23/2008	3	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-10.0	R"4"/C"5" channel	4/2/2009	2	dry	3	NA
103-10.0	R"4"/C"5" channel	4/22/2009	1	wet		
103-10.0	R"4"/C"5" channel	6/10/2009	81	wet		
103-10.0	R"4"/C"5" channel	6/29/2009	6	dry		
103-10.0	R"4"/C"5" channel	8/3/2009	2	wet		
103-10.0	R"4"/C"5" channel	8/26/2009	1	dry		
103-10.0	R"4"/C"5" channel	8/31/2009	1	wet		
103-10.0	R"4"/C"5" channel	9/15/2009	1	dry		
103-10.0	R"4"/C"5" channel	10/28/2009	4	dry		
103-10.0	R"4"/C"5" channel	10/29/2009	10	wet		
103-10.0	R"4"/C"5" channel	11/16/2009	1	wet		
103-10.0	R"4"/C"5" channel	3/2/2010	1	wet	4	NA
103-10.0	R"4"/C"5" channel	3/17/2010	1	wet		
103-10.0	R"4"/C"5" channel	5/4/2010	28	wet		
103-10.0	R"4"/C"5" channel	5/19/2010	11	wet		
103-10.0	R"4"/C"5" channel	8/17/2010	6	wet		
103-10.0	R"4"/C"5" channel	8/25/2010	2	wet		
103-10.0	R"4"/C"5" channel	12/13/2010	26	wet		
103-10.0	R"4"/C"5" channel	12/16/2010	1	dry		
103-10.0	R"4"/C"5" channel	4/19/2011	3	wet	2	NA
103-10.0	R"4"/C"5" channel	4/26/2011	1	dry		
103-10.0	R"4"/C"5" channel	5/23/2011	28	wet		
103-10.0	R"4"/C"5" channel	5/26/2011	1	wet		
103-10.0	R"4"/C"5" channel	6/20/2011	1	wet		
103-10.0	R"4"/C"5" channel	6/27/2011	1	dry		
103-10.0	R"4"/C"5" channel	7/21/2011	1	dry		
103-11.0	NW Chimon Island	2/16/2000	2	wet	3	NA
103-11.0	NW Chimon Island	5/15/2000	4	wet		
103-11.0	NW Chimon Island	6/21/2000	2	dry		
103-11.0	NW Chimon Island	9/13/2000	6	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.0	NW Chimon Island	1/23/2001	2	dry	7	6
103-11.0	NW Chimon Island	2/2/2001	6	dry		
103-11.0	NW Chimon Island	2/7/2001	8	wet		
103-11.0	NW Chimon Island	8/15/2001	11	wet		
103-11.0	NW Chimon Island	8/28/2001	51	wet		
103-11.0	NW Chimon Island	8/30/2001	4	dry		
103-11.0	NW Chimon Island	1/9/2002	2	dry	4	NA
103-11.0	NW Chimon Island	10/28/2002	8	wet		
103-11.0	NW Chimon Island	2/26/2003	2	wet	11	10
103-11.0	NW Chimon Island	6/11/2003	11	dry		
103-11.0	NW Chimon Island	6/17/2003	28	dry		
103-11.0	NW Chimon Island	8/6/2003	5.8	wet		
103-11.0	NW Chimon Island	8/19/2003	51	wet		
103-11.0	NW Chimon Island	8/23/2004	51	wet	NA	90
103-11.0	NW Chimon Island	8/16/2005	64	wet	NA	90
103-11.0	NW Chimon Island	9/6/2006	4	dry	NA	NA
103-11.0	NW Chimon Island	7/9/2007	1	dry	1	NA
103-11.0	NW Chimon Island	9/13/2007	1	wet		
103-11.0	NW Chimon Island	12/5/2007	1	wet		
103-11.0	NW Chimon Island	1/15/2008	16	dry	4	4
103-11.0	NW Chimon Island	2/20/2008	1	wet		
103-11.0	NW Chimon Island	8/11/2008	1	dry		
103-11.0	NW Chimon Island	9/10/2008	40	wet		
103-11.0	NW Chimon Island	9/16/2008	11	wet		
103-11.0	NW Chimon Island	12/15/2008	1	wet		
103-11.0	NW Chimon Island	12/23/2008	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.0	NW Chimon Island	4/2/2009	1	dry	3	NA
103-11.0	NW Chimon Island	6/10/2009	48	wet		
103-11.0	NW Chimon Island	6/29/2009	24	dry		
103-11.0	NW Chimon Island	8/3/2009	3	wet		
103-11.0	NW Chimon Island	8/26/2009	3	dry		
103-11.0	NW Chimon Island	8/31/2009	1	wet		
103-11.0	NW Chimon Island	9/15/2009	1	dry		
103-11.0	NW Chimon Island	10/28/2009	1	dry		
103-11.0	NW Chimon Island	10/29/2009	9	wet		
103-11.0	NW Chimon Island	11/16/2009	1	wet		
103-11.0	NW Chimon Island	12/15/2009	3	wet		
103-11.0	NW Chimon Island	3/2/2010	1	wet	7	12
103-11.0	NW Chimon Island	3/17/2010	1	wet		
103-11.0	NW Chimon Island	5/4/2010	38	wet		
103-11.0	NW Chimon Island	5/19/2010	41	wet		
103-11.0	NW Chimon Island	6/23/2010	3	wet		
103-11.0	NW Chimon Island	8/17/2010	9	wet		
103-11.0	NW Chimon Island	8/25/2010	2	wet		
103-11.0	NW Chimon Island	12/13/2010	62	wet		
103-11.0	NW Chimon Island	12/16/2010	4	dry		
103-11.0	NW Chimon Island	4/19/2011	1	wet	3	NA
103-11.0	NW Chimon Island	4/26/2011	3	dry		
103-11.0	NW Chimon Island	5/23/2011	6	wet		
103-11.0	NW Chimon Island	5/26/2011	6	wet		
103-11.0	NW Chimon Island	6/20/2011	3	wet		
103-11.0	NW Chimon Island	6/27/2011	1	dry		
103-11.0	NW Chimon Island	7/20/2011	13	wet		
103-11.1	South Raymond Rocks	2/16/2000	2	wet	2	NA
103-11.1	South Raymond Rocks	5/15/2000	4	wet		
103-11.1	South Raymond Rocks	6/21/2000	2	dry		
103-11.1	South Raymond Rocks	9/13/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.1	South Raymond Rocks	1/23/2001	2	dry	5	6
103-11.1	South Raymond Rocks	2/2/2001	2	dry		
103-11.1	South Raymond Rocks	2/7/2001	2	wet		
103-11.1	South Raymond Rocks	8/15/2001	28	wet		
103-11.1	South Raymond Rocks	8/28/2001	51	wet		
103-11.1	South Raymond Rocks	8/30/2001	4	dry		
103-11.1	South Raymond Rocks	1/9/2002	4	dry	6	NA
103-11.1	South Raymond Rocks	10/28/2002	11	wet		
103-11.1	South Raymond Rocks	2/26/2003	2	wet	9	30
103-11.1	South Raymond Rocks	6/11/2003	4	dry		
103-11.1	South Raymond Rocks	6/17/2003	4	dry		
103-11.1	South Raymond Rocks	8/6/2003	51	wet		
103-11.1	South Raymond Rocks	8/19/2003	51	wet		
103-11.1	South Raymond Rocks	8/23/2004	50	wet	NA	90
103-11.1	South Raymond Rocks	8/16/2005	51	wet	NA	90
103-11.1	South Raymond Rocks	9/6/2006	5	dry	NA	NA
103-11.1	South Raymond Rocks	7/9/2007	1	dry	2	NA
103-11.1	South Raymond Rocks	9/13/2007	4	wet		
103-11.1	South Raymond Rocks	12/5/2007	1	wet		
103-11.1	South Raymond Rocks	1/15/2008	6	dry	5	4
103-11.1	South Raymond Rocks	2/20/2008	1	wet		
103-11.1	South Raymond Rocks	8/11/2008	1	dry		
103-11.1	South Raymond Rocks	9/10/2008	81	wet		
103-11.1	South Raymond Rocks	9/16/2008	6	wet		
103-11.1	South Raymond Rocks	12/15/2008	4	wet		
103-11.1	South Raymond Rocks	12/23/2008	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.1	South Raymond Rocks	4/2/2009	2	dry	3	NA
103-11.1	South Raymond Rocks	4/22/2009	4	wet		
103-11.1	South Raymond Rocks	6/10/2009	8	wet		
103-11.1	South Raymond Rocks	6/29/2009	14	dry		
103-11.1	South Raymond Rocks	8/3/2009	8	wet		
103-11.1	South Raymond Rocks	8/26/2009	1	dry		
103-11.1	South Raymond Rocks	8/31/2009	2	wet		
103-11.1	South Raymond Rocks	9/15/2009	1	dry		
103-11.1	South Raymond Rocks	10/28/2009	2	dry		
103-11.1	South Raymond Rocks	10/29/2009	16	wet		
103-11.1	South Raymond Rocks	11/16/2009	1	wet		
103-11.1	South Raymond Rocks	12/15/2009	4	wet		
103-11.1	South Raymond Rocks	3/2/2010	1	wet	7	3
103-11.1	South Raymond Rocks	3/17/2010	1	wet		
103-11.1	South Raymond Rocks	5/4/2010	29	wet		
103-11.1	South Raymond Rocks	5/19/2010	43	wet		
103-11.1	South Raymond Rocks	8/17/2010	21	wet		
103-11.1	South Raymond Rocks	8/25/2010	6	wet		
103-11.1	South Raymond Rocks	12/13/2010	53	wet		
103-11.1	South Raymond Rocks	12/16/2010	1	dry		
103-11.1	South Raymond Rocks	1/19/2011	6	wet	4	NA
103-11.1	South Raymond Rocks	4/19/2011	1	wet		
103-11.1	South Raymond Rocks	4/26/2011	16	dry		
103-11.1	South Raymond Rocks	5/23/2011	7	wet		
103-11.1	South Raymond Rocks	5/26/2011	6	wet		
103-11.1	South Raymond Rocks	6/20/2011	5	wet		
103-11.1	South Raymond Rocks	6/27/2011	1	dry		
103-11.1	South Raymond Rocks	7/20/2011	7	wet		
103-11.2	between Shea-Chimon Island	2/16/2000	4	wet	2	NA
103-11.2	between Shea-Chimon Island	5/15/2000	4	wet		
103-11.2	between Shea-Chimon Island	6/21/2000	2	dry		
103-11.2	between Shea-Chimon Island	9/13/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.2	between Shea-Chimon Island	1/23/2001	2	dry	4	7
103-11.2	between Shea-Chimon Island	2/2/2001	2	dry		
103-11.2	between Shea-Chimon Island	2/7/2001	2	wet		
103-11.2	between Shea-Chimon Island	8/15/2001	11	wet		
103-11.2	between Shea-Chimon Island	8/28/2001	51	wet		
103-11.2	between Shea-Chimon Island	8/30/2001	2	dry		
103-11.2	between Shea-Chimon Island	1/9/2002	18	dry	6	NA
103-11.2	between Shea-Chimon Island	10/28/2002	2	wet		
103-11.2	between Shea-Chimon Island	2/26/2003	2	wet	5	15
103-11.2	between Shea-Chimon Island	6/11/2003	2	dry		
103-11.2	between Shea-Chimon Island	8/6/2003	6	wet		
103-11.2	between Shea-Chimon Island	8/19/2003	36	wet		
103-11.2	between Shea-Chimon Island	8/23/2004	11	wet	NA	NA
103-11.2	between Shea-Chimon Island	8/16/2005	30	wet	NA	NA
103-11.2	between Shea-Chimon Island	9/6/2006	5	dry	NA	NA
103-11.2	between Shea-Chimon Island	7/9/2007	2	dry	1	
103-11.2	between Shea-Chimon Island	9/13/2007	1	wet		
103-11.2	between Shea-Chimon Island	12/5/2007	1	wet		
103-11.2	between Shea-Chimon Island	1/15/2008	8	dry	4	4
103-11.2	between Shea-Chimon Island	2/20/2008	1	wet		
103-11.2	between Shea-Chimon Island	8/11/2008	1	dry		
103-11.2	between Shea-Chimon Island	9/10/2008	55	wet		
103-11.2	between Shea-Chimon Island	9/16/2008	9	wet		
103-11.2	between Shea-Chimon Island	12/15/2008	1	wet		
103-11.2	between Shea-Chimon Island	12/23/2008	8	wet		
103-11.2	between Shea-Chimon Island	4/2/2009	1	dry	2	NA
103-11.2	between Shea-Chimon Island	6/29/2009	2	dry		
103-11.2	between Shea-Chimon Island	8/3/2009	2	wet		
103-11.2	between Shea-Chimon Island	8/26/2009	1	dry		
103-11.2	between Shea-Chimon Island	8/31/2009	1	wet		
103-11.2	between Shea-Chimon Island	9/15/2009	1	dry		
103-11.2	between Shea-Chimon Island	10/28/2009	2	dry		
103-11.2	between Shea-Chimon Island	11/16/2009	4	wet		
103-11.2	between Shea-Chimon Island	12/15/2009	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-11.2	between Shea-Chimon Island	3/2/2010	1	wet	4	3
103-11.2	between Shea-Chimon Island	3/17/2010	1	wet		
103-11.2	between Shea-Chimon Island	5/4/2010	9	wet		
103-11.2	between Shea-Chimon Island	5/19/2010	22	wet		
103-11.2	between Shea-Chimon Island	8/17/2010	1	wet		
103-11.2	between Shea-Chimon Island	8/25/2010	1	wet		
103-11.2	between Shea-Chimon Island	12/13/2010	81	wet		
103-11.2	between Shea-Chimon Island	12/16/2010	3	dry		
103-11.2	between Shea-Chimon Island	4/19/2011	1	wet	1	NA
103-11.2	between Shea-Chimon Island	4/26/2011	1	dry		
103-11.2	between Shea-Chimon Island	5/23/2011	4	wet		
103-11.2	between Shea-Chimon Island	6/20/2011	2	wet		
103-11.2	between Shea-Chimon Island	6/27/2011	1	dry		
103-11.2	between Shea-Chimon Island	7/20/2011	1	wet		
103-12.0	between Sheffield-Copps Island	4/24/2000	2	wet	5	NA
103-12.0	between Sheffield-Copps Island	5/25/2000	14	wet		
103-12.0	between Sheffield-Copps Island	6/21/2000	8	dry		
103-12.0	between Sheffield-Copps Island	7/18/2000	6	dry		
103-12.0	between Sheffield-Copps Island	7/19/2000	2	dry		
103-12.0	between Sheffield-Copps Island	9/14/2000	6	wet		
103-12.0	between Sheffield-Copps Island	2/2/2001	8	dry	3	NA
103-12.0	between Sheffield-Copps Island	4/2/2001	2	wet		
103-12.0	between Sheffield-Copps Island	5/29/2001	2	dry		
103-12.0	between Sheffield-Copps Island	6/20/2001	6	dry		
103-12.0	between Sheffield-Copps Island	8/14/2001	6	wet		
103-12.0	between Sheffield-Copps Island	8/30/2001	2	dry		
103-12.0	between Sheffield-Copps Island	9/24/2001	2	wet		
103-12.0	between Sheffield-Copps Island	5/22/2002	2	dry	4	4
103-12.0	between Sheffield-Copps Island	6/11/2002	2	wet		
103-12.0	between Sheffield-Copps Island	6/17/2002	4	dry		
103-12.0	between Sheffield-Copps Island	9/3/2002	51	wet		
103-12.0	between Sheffield-Copps Island	9/4/2002	11	wet		
103-12.0	between Sheffield-Copps Island	9/30/2002	2	dry		
103-12.0	between Sheffield-Copps Island	10/28/2002	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-12.0	between Sheffield-Copps Island	4/30/2003	2	dry	3	NA
103-12.0	between Sheffield-Copps Island	6/2/2003	11	wet		
103-12.0	between Sheffield-Copps Island	6/11/2003	2	dry		
103-12.0	between Sheffield-Copps Island	6/17/2003	14	dry		
103-12.0	between Sheffield-Copps Island	8/6/2003	2	wet		
103-12.0	between Sheffield-Copps Island	8/18/2003	2	wet		
103-12.0	between Sheffield-Copps Island	10/1/2003	2	dry		
103-12.0	between Sheffield-Copps Island	10/2/2003	2	dry		
103-12.0	between Sheffield-Copps Island	7/7/2004	2	wet	2	NA
103-12.0	between Sheffield-Copps Island	8/9/2004	2	dry		
103-12.0	between Sheffield-Copps Island	9/13/2004	2	wet		
103-12.0	between Sheffield-Copps Island	9/21/2004	8	wet		
103-12.0	between Sheffield-Copps Island	8/16/2005	18	wet	NA	NA
103-12.0	between Sheffield-Copps Island	7/17/2006	1	dry	2	4
103-12.0	between Sheffield-Copps Island	8/31/2006	43	wet		
103-12.0	between Sheffield-Copps Island	9/5/2006	2	wet		
103-12.0	between Sheffield-Copps Island	9/6/2006	2	dry		
103-12.0	between Sheffield-Copps Island	10/16/2006	1	dry		
103-12.0	between Sheffield-Copps Island	11/1/2006	2	wet		
103-12.0	between Sheffield-Copps Island	11/27/2006	1	dry		
103-12.0	between Sheffield-Copps Island	3/5/2007	1	wet	2	NA
103-12.0	between Sheffield-Copps Island	5/1/2007	1	wet		
103-12.0	between Sheffield-Copps Island	6/5/2007	40	wet		
103-12.0	between Sheffield-Copps Island	6/7/2007	2	wet		
103-12.0	between Sheffield-Copps Island	7/24/2007	1	wet		
103-12.0	between Sheffield-Copps Island	8/8/2007	1	wet		
103-12.0	between Sheffield-Copps Island	8/23/2007	2	wet		
103-12.0	between Sheffield-Copps Island	9/13/2007	2	wet		
103-12.0	between Sheffield-Copps Island	10/15/2007	4	wet		
103-12.0	between Sheffield-Copps Island	10/22/2007	1	wet		
103-12.0	between Sheffield-Copps Island	10/30/2007	1	wet		
103-12.0	between Sheffield-Copps Island	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-12.0	between Sheffield-Copps Island	2/4/2008	2	dry	3	7
103-12.0	between Sheffield-Copps Island	7/28/2008	1	dry		
103-12.0	between Sheffield-Copps Island	8/5/2008	1	dry		
103-12.0	between Sheffield-Copps Island	9/10/2008	32	wet		
103-12.0	between Sheffield-Copps Island	12/16/2008	2	wet		
103-12.0	between Sheffield-Copps Island	12/23/2008	7	wet		
103-12.0	between Sheffield-Copps Island	4/2/2009	1	dry	2	NA
103-12.0	between Sheffield-Copps Island	4/22/2009	2	wet		
103-12.0	between Sheffield-Copps Island	6/10/2009	5	wet		
103-12.0	between Sheffield-Copps Island	6/23/2009	10	wet		
103-12.0	between Sheffield-Copps Island	8/3/2009	2	wet		
103-12.0	between Sheffield-Copps Island	8/26/2009	1	dry		
103-12.0	between Sheffield-Copps Island	8/31/2009	1	wet		
103-12.0	between Sheffield-Copps Island	3/2/2010	1	wet	1	NA
103-12.0	between Sheffield-Copps Island	3/17/2010	1	wet		
103-12.0	between Sheffield-Copps Island	3/25/2010	1	wet		
103-12.0	between Sheffield-Copps Island	5/4/2010	1	wet		
103-12.0	between Sheffield-Copps Island	5/19/2010	2	wet		
103-12.0	between Sheffield-Copps Island	6/23/2010	5	wet		
103-12.0	between Sheffield-Copps Island	8/17/2010	1	wet		
103-12.0	between Sheffield-Copps Island	8/25/2010	2	wet		
103-12.0	between Sheffield-Copps Island	4/26/2011	1	dry	1	NA
103-12.0	between Sheffield-Copps Island	6/27/2011	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	4/24/2000	2	wet	2	NA
103-12.1	South Shea Island/East end Sheffield Island	5/25/2000	11	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/21/2000	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	7/18/2000	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	7/19/2000	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	9/14/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	2/2/2001	9	dry	2	NA
103-12.1	South Shea Island/East end Sheffield Island	4/2/2001	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	5/29/2001	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	6/20/2001	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	8/14/2001	6	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/30/2001	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	9/24/2001	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	5/22/2002	2	dry	3	4
103-12.1	South Shea Island/East end Sheffield Island	6/11/2002	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/17/2002	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	9/3/2002	50	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/4/2002	6	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/30/2002	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	10/28/2002	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	4/30/2003	2	dry	3	NA
103-12.1	South Shea Island/East end Sheffield Island	6/2/2003	18	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/11/2003	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	6/17/2003	11	dry		

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	8/6/2003	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/18/2003	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	10/1/2003	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	10/2/2003	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	7/7/2004	2	wet	2	NA
103-12.1	South Shea Island/East end Sheffield Island	8/9/2004	2	dry		
103-12.1	South Shea Island/East end Sheffield Island	9/13/2004	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/21/2004	4	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/16/2005	10	wet	NA	NA

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	7/17/2006	1	dry	2	NA
103-12.1	South Shea Island/East end Sheffield Island	8/31/2006	9	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/5/2006	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/6/2006	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	10/16/2006	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	11/1/2006	2	wet		

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	11/27/2006	6	dry		
103-12.1	South Shea Island/East end Sheffield Island	3/5/2007	1	wet	2	NA
103-12.1	South Shea Island/East end Sheffield Island	5/1/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/5/2007	81	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/7/2007	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	7/24/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/8/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/23/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	9/13/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	10/15/2007	8	wet		
103-12.1	South Shea Island/East end Sheffield Island	10/22/2007	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	10/30/2007	5	wet		
103-12.1	South Shea Island/East end Sheffield Island	12/5/2007	5	wet		
103-12.1	South Shea Island/East end Sheffield Island	2/4/2008	1	dry	2	NA
103-12.1	South Shea Island/East end Sheffield Island	7/28/2008	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	8/5/2008	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	9/10/2008	14	wet		
103-12.1	South Shea Island/East end Sheffield Island	12/16/2008	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	12/23/2008	3	wet		
103-12.1	South Shea Island/East end Sheffield Island	4/2/2009	1	dry	2	NA

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	4/22/2009	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/10/2009	16	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/23/2009	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/3/2009	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/26/2009	1	dry		
103-12.1	South Shea Island/East end Sheffield Island	8/31/2009	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
103-12.1	South Shea Island/East end Sheffield Island	3/2/2010	1	wet	1	NA
103-12.1	South Shea Island/East end Sheffield Island	3/17/2010	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	3/25/2010	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	5/4/2010	3	wet		
103-12.1	South Shea Island/East end Sheffield Island	5/19/2010	2	wet		
103-12.1	South Shea Island/East end Sheffield Island	6/23/2010	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/17/2010	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	8/25/2010	1	wet		
103-12.1	South Shea Island/East end Sheffield Island	4/26/2011	1	dry	1	NA
103-12.1	South Shea Island/East end Sheffield Island	6/27/2011	1	dry		
103-14.0	between Betts and Grassy Island	2/16/2000	2	wet	3	NA
103-14.0	between Betts and Grassy Island	5/15/2000	2	wet		

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Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-14.0	between Betts and Grassy Island	6/21/2000	2	dry		
103-14.0	between Betts and Grassy Island	9/13/2000	14	wet		
103-14.0	between Betts and Grassy Island	1/23/2001	2	dry	4	7
103-14.0	between Betts and Grassy Island	2/2/2001	2	dry		
103-14.0	between Betts and Grassy Island	2/7/2001	4	wet		
103-14.0	between Betts and Grassy Island	8/14/2001	6	wet		
103-14.0	between Betts and Grassy Island	8/28/2001	51	wet		
103-14.0	between Betts and Grassy Island	8/30/2001	2	dry		
103-14.0	between Betts and Grassy Island	1/9/2002	6	dry	8	NA
103-14.0	between Betts and Grassy Island	10/28/2002	11	wet		
103-14.0	between Betts and Grassy Island	2/26/2003	2	wet	5	NA
103-14.0	between Betts and Grassy Island	6/11/2003	11	dry		
103-14.0	between Betts and Grassy Island	6/17/2003	6	dry		
103-14.0	between Betts and Grassy Island	8/6/2003	6	wet		
103-14.0	between Betts and Grassy Island	8/19/2003	6	wet		
103-14.0	between Betts and Grassy Island	8/23/2004	51	wet	NA	90
103-14.0	between Betts and Grassy Island	8/16/2005	47	wet	NA	90
103-14.0	between Betts and Grassy Island	9/6/2006	1	dry	NA	NA

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-14.0	between Betts and Grassy Island	7/9/2007	2	dry	2	NA
103-14.0	between Betts and Grassy Island	9/13/2007	5	wet		
103-14.0	between Betts and Grassy Island	10/30/2007	3	wet		
103-14.0	between Betts and Grassy Island	12/5/2007	1	wet		
103-14.0	between Betts and Grassy Island	1/15/2008	9	dry	4	4
103-14.0	between Betts and Grassy Island	2/20/2008	1	wet		
103-14.0	between Betts and Grassy Island	8/11/2008	1	dry		
103-14.0	between Betts and Grassy Island	9/10/2008	36	wet		
103-14.0	between Betts and Grassy Island	9/16/2008	5	wet		
103-14.0	between Betts and Grassy Island	12/15/2008	4	wet		
103-14.0	between Betts and Grassy Island	12/23/2008	2	wet		
103-14.0	between Betts and Grassy Island	4/2/2009	1	dry	2	NA
103-14.0	between Betts and Grassy Island	4/22/2009	1	wet		
103-14.0	between Betts and Grassy Island	6/10/2009	10	wet		
103-14.0	between Betts and Grassy Island	6/29/2009	1	dry		
103-14.0	between Betts and Grassy Island	8/3/2009	2	wet		
103-14.0	between Betts and Grassy Island	8/26/2009	1	dry		
103-14.0	between Betts and Grassy Island	8/31/2009	1	wet		
103-14.0	between Betts and Grassy Island	9/15/2009	1	dry		
103-14.0	between Betts and Grassy Island	10/28/2009	1	dry		
103-14.0	between Betts and Grassy Island	11/16/2009	1	wet		
103-14.0	between Betts and Grassy Island	12/15/2009	8	wet		
103-14.0	between Betts and Grassy Island	3/17/2010	1	wet	9	3
103-14.0	between Betts and Grassy Island	5/4/2010	19	wet		
103-14.0	between Betts and Grassy Island	5/19/2010	18	wet		
103-14.0	between Betts and Grassy Island	6/23/2010	11	wet		
103-14.0	between Betts and Grassy Island	8/17/2010	3	wet		
103-14.0	between Betts and Grassy Island	8/25/2010	6	wet		
103-14.0	between Betts and Grassy Island	12/13/2010	61	wet		
103-14.0	between Betts and Grassy Island	12/16/2010	4	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-14.0	between Betts and Grassy Island	4/19/2011	1	wet	2	NA
103-14.0	between Betts and Grassy Island	4/26/2011	1	dry		
103-14.0	between Betts and Grassy Island	5/23/2011	11	wet		
103-14.0	between Betts and Grassy Island	6/20/2011	4	wet		
103-14.0	between Betts and Grassy Island	6/20/2011	3	wet		
103-14.0	between Betts and Grassy Island	6/27/2011	1	dry		
103-14.0	between Betts and Grassy Island	7/20/2011	4	wet		
103-15.0	Grassy Hammock	2/16/2000	2	wet	4	NA
103-15.0	Grassy Hammock	5/15/2000	6	wet		
103-15.0	Grassy Hammock	6/21/2000	2	dry		
103-15.0	Grassy Hammock	9/13/2000	14	wet		
103-15.0	Grassy Hammock	1/23/2001	2	dry	7	4
103-15.0	Grassy Hammock	2/2/2001	4	dry		
103-15.0	Grassy Hammock	2/7/2001	2	wet		
103-15.0	Grassy Hammock	8/14/2001	22	wet		
103-15.0	Grassy Hammock	8/16/2001	6	dry		
103-15.0	Grassy Hammock	8/28/2001	51	wet		
103-15.0	Grassy Hammock	8/30/2001	11	dry		
103-15.0	Grassy Hammock	1/9/2002	11	dry	16	NA
103-15.0	Grassy Hammock	10/28/2002	22	wet		
103-15.0	Grassy Hammock	2/26/2003	2	wet	9	10
103-15.0	Grassy Hammock	6/11/2003	4	dry		
103-15.0	Grassy Hammock	6/17/2003	11	dry		
103-15.0	Grassy Hammock	8/6/2003	51	wet		
103-15.0	Grassy Hammock	8/19/2003	18	wet		
103-15.0	Grassy Hammock	8/23/2004	51	wet	NA	90
103-15.0	Grassy Hammock	8/16/2005	46	wet	NA	90
103-15.0	Grassy Hammock	9/6/2006	8	dry	NA	NA
103-15.0	Grassy Hammock	7/9/2007	1	dry	2	NA
103-15.0	Grassy Hammock	9/13/2007	4	wet		
103-15.0	Grassy Hammock	10/30/2007	6	wet		
103-15.0	Grassy Hammock	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.0	Grassy Hammock	1/15/2008	11	dry	5	3
103-15.0	Grassy Hammock	2/20/2008	1	wet		
103-15.0	Grassy Hammock	8/11/2008	1	dry		
103-15.0	Grassy Hammock	9/10/2008	32	wet		
103-15.0	Grassy Hammock	9/16/2008	5	wet		
103-15.0	Grassy Hammock	12/15/2008	2	wet		
103-15.0	Grassy Hammock	12/16/2008	12	wet		
103-15.0	Grassy Hammock	12/23/2008	6	wet		
103-15.0	Grassy Hammock	4/2/2009	1	dry	3	NA
103-15.0	Grassy Hammock	4/22/2009	8	wet		
103-15.0	Grassy Hammock	6/10/2009	4	wet		
103-15.0	Grassy Hammock	6/29/2009	4	dry		
103-15.0	Grassy Hammock	8/3/2009	11	wet		
103-15.0	Grassy Hammock	8/26/2009	1	dry		
103-15.0	Grassy Hammock	8/31/2009	5	wet		
103-15.0	Grassy Hammock	9/15/2009	1	dry		
103-15.0	Grassy Hammock	10/28/2009	1	dry		
103-15.0	Grassy Hammock	10/29/2009	7	wet		
103-15.0	Grassy Hammock	11/16/2009	2	wet		
103-15.0	Grassy Hammock	12/15/2009	8	wet		
103-15.0	Grassy Hammock	3/2/2010	1	wet	7	23
103-15.0	Grassy Hammock	3/17/2010	1	wet		
103-15.0	Grassy Hammock	5/4/2010	34	wet		
103-15.0	Grassy Hammock	5/19/2010	16	wet		
103-15.0	Grassy Hammock	6/23/2010	4	wet		
103-15.0	Grassy Hammock	8/17/2010	38	wet		
103-15.0	Grassy Hammock	8/25/2010	9	wet		
103-15.0	Grassy Hammock	12/13/2010	58	wet		
103-15.0	Grassy Hammock	12/16/2010	1	dry		
103-15.0	Grassy Hammock	4/19/2011	2	wet	3	NA
103-15.0	Grassy Hammock	4/26/2011	2	dry		
103-15.0	Grassy Hammock	5/23/2011	6	wet		
103-15.0	Grassy Hammock	6/20/2011	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.1	N. C"9" / W. Grassy Hammock	2/16/2000	2	wet	3	NA
103-15.1	N. C"9" / W. Grassy Hammock	5/15/2000	6	wet		
103-15.1	N. C"9" / W. Grassy Hammock	6/21/2000	2	dry		
103-15.1	N. C"9" / W. Grassy Hammock	1/23/2001	2	dry	5	15
103-15.1	N. C"9" / W. Grassy Hammock	2/7/2001	4	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/28/2001	51	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/30/2001	2	dry		
103-15.1	N. C"9" / W. Grassy Hammock	1/9/2002	14	dry	11	NA
103-15.1	N. C"9" / W. Grassy Hammock	10/28/2002	8	wet		
103-15.1	N. C"9" / W. Grassy Hammock	2/26/2003	2	wet	10	15
103-15.1	N. C"9" / W. Grassy Hammock	6/17/2003	8	dry		
103-15.1	N. C"9" / W. Grassy Hammock	8/6/2003	50	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/19/2003	18	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/23/2004	51	wet	NA	NA
103-15.1	N. C"9" / W. Grassy Hammock	8/16/2005	81	wet	9	40
103-15.1	N. C"9" / W. Grassy Hammock	11/21/2005	1	dry		
103-15.1	N. C"9" / W. Grassy Hammock	7/9/2007	3	dry	2	NA
103-15.1	N. C"9" / W. Grassy Hammock	9/13/2007	2	wet		
103-15.1	N. C"9" / W. Grassy Hammock	10/30/2007	4	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/5/2007	1	wet		
103-15.1	N. C"9" / W. Grassy Hammock	2/20/2008	1	wet	4	7
103-15.1	N. C"9" / W. Grassy Hammock	8/11/2008	1	dry		
103-15.1	N. C"9" / W. Grassy Hammock	9/10/2008	54	wet		
103-15.1	N. C"9" / W. Grassy Hammock	9/16/2008	4	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/15/2008	12	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/23/2008	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.1	N. C"9" / W. Grassy Hammock	4/2/2009	1	dry	4	NA
103-15.1	N. C"9" / W. Grassy Hammock	4/22/2009	9	wet		
103-15.1	N. C"9" / W. Grassy Hammock	6/10/2009	6	wet		
103-15.1	N. C"9" / W. Grassy Hammock	6/29/2009	6	dry		
103-15.1	N. C"9" / W. Grassy Hammock	8/3/2009	12	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/26/2009	1	dry		
103-15.1	N. C"9" / W. Grassy Hammock	8/31/2009	10	wet		
103-15.1	N. C"9" / W. Grassy Hammock	9/15/2009	1	dry		
103-15.1	N. C"9" / W. Grassy Hammock	11/16/2009	2	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/15/2009	10	wet		
103-15.1	N. C"9" / W. Grassy Hammock	3/17/2010	1	wet	13	19
103-15.1	N. C"9" / W. Grassy Hammock	5/4/2010	41	wet		
103-15.1	N. C"9" / W. Grassy Hammock	5/19/2010	21	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/17/2010	27	wet		
103-15.1	N. C"9" / W. Grassy Hammock	8/25/2010	9	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/13/2010	63	wet		
103-15.1	N. C"9" / W. Grassy Hammock	12/16/2010	4	dry		
103-15.1	N. C"9" / W. Grassy Hammock	1/19/2011	2	wet	4	NA
103-15.1	N. C"9" / W. Grassy Hammock	4/19/2011	4	wet		
103-15.1	N. C"9" / W. Grassy Hammock	4/26/2011	4	dry		
103-15.1	N. C"9" / W. Grassy Hammock	5/23/2011	8	wet		
103-15.1	N. C"9" / W. Grassy Hammock	6/20/2011	3	wet		
103-15.1	N. C"9" / W. Grassy Hammock	6/27/2011	3	dry		
103-15.1	N. C"9" / W. Grassy Hammock	7/20/2011	5	wet		
103-15.3	C"1" NE Raymond Rocks	2/16/2000	1.6	wet	3	NA
103-15.3	C"1" NE Raymond Rocks	5/15/2000	11	wet		
103-15.3	C"1" NE Raymond Rocks	6/21/2000	2	dry		
103-15.3	C"1" NE Raymond Rocks	1/23/2001	2	dry	9	15
103-15.3	C"1" NE Raymond Rocks	2/7/2001	4	wet		
103-15.3	C"1" NE Raymond Rocks	8/28/2001	51	wet		
103-15.3	C"1" NE Raymond Rocks	8/30/2001	18	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.3	C"1" NE Raymond Rocks	1/9/2002	8	dry	8	NA
103-15.3	C"1" NE Raymond Rocks	10/28/2002	8	wet		
103-15.3	C"1" NE Raymond Rocks	2/26/2003	8	wet	17	15
103-15.3	C"1" NE Raymond Rocks	6/17/2003	8	dry		
103-15.3	C"1" NE Raymond Rocks	8/6/2003	51	wet		
103-15.3	C"1" NE Raymond Rocks	8/19/2003	28	wet		
103-15.3	C"1" NE Raymond Rocks	8/23/2004	51	wet	NA	NA
103-15.3	C"1" NE Raymond Rocks	8/16/2005	81	wet	9	40
103-15.3	C"1" NE Raymond Rocks	11/21/2005	1	dry		
103-15.3	C"1" NE Raymond Rocks	7/9/2007	1	dry	5	NA
103-15.3	C"1" NE Raymond Rocks	9/13/2007	8	wet		
103-15.3	C"1" NE Raymond Rocks	10/30/2007	13	wet		
103-15.3	C"1" NE Raymond Rocks	12/5/2007	8	wet		
103-15.3	C"1" NE Raymond Rocks	1/15/2008	14	dry	9	19
103-15.3	C"1" NE Raymond Rocks	2/20/2008	1	wet		
103-15.3	C"1" NE Raymond Rocks	8/11/2008	13	dry		
103-15.3	C"1" NE Raymond Rocks	9/10/2008	81	wet		
103-15.3	C"1" NE Raymond Rocks	9/16/2008	7	wet		
103-15.3	C"1" NE Raymond Rocks	12/15/2008	1	wet		
103-15.3	C"1" NE Raymond Rocks	12/16/2008	34	wet		
103-15.3	C"1" NE Raymond Rocks	4/2/2009	1	dry	5	NA
103-15.3	C"1" NE Raymond Rocks	4/22/2009	12	wet		
103-15.3	C"1" NE Raymond Rocks	6/10/2009	12	wet		
103-15.3	C"1" NE Raymond Rocks	8/3/2009	6	wet		
103-15.3	C"1" NE Raymond Rocks	8/26/2009	1	dry		
103-15.3	C"1" NE Raymond Rocks	8/31/2009	6	wet		
103-15.3	C"1" NE Raymond Rocks	9/15/2009	4	dry		
103-15.3	C"1" NE Raymond Rocks	10/28/2009	2	dry		
103-15.3	C"1" NE Raymond Rocks	11/16/2009	1	wet		
103-15.3	C"1" NE Raymond Rocks	12/15/2009	92	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.3	C"1" NE Raymond Rocks	3/2/2010	1	wet	10	28
103-15.3	C"1" NE Raymond Rocks	3/17/2010	1	wet		
103-15.3	C"1" NE Raymond Rocks	5/4/2010	23	wet		
103-15.3	C"1" NE Raymond Rocks	5/19/2010	32	wet		
103-15.3	C"1" NE Raymond Rocks	8/17/2010	81	wet		
103-15.3	C"1" NE Raymond Rocks	8/25/2010	9	wet		
103-15.3	C"1" NE Raymond Rocks	12/13/2010	81	wet		
103-15.3	C"1" NE Raymond Rocks	12/16/2010	2	dry		
103-15.3	C"1" NE Raymond Rocks	1/19/2011	1	wet	3	NA
103-15.3	C"1" NE Raymond Rocks	4/19/2011	8	wet		
103-15.3	C"1" NE Raymond Rocks	4/26/2011	2	dry		
103-15.3	C"1" NE Raymond Rocks	5/23/2011	9	wet		
103-15.3	C"1" NE Raymond Rocks	6/20/2011	2	wet		
103-15.3	C"1" NE Raymond Rocks	6/27/2011	2	dry		
103-15.3	C"1" NE Raymond Rocks	7/20/2011	7	wet		
103-15.5	SW Calf Pasture Island	2/16/2000	2	wet	2	NA
103-15.5	SW Calf Pasture Island	5/15/2000	4	wet		
103-15.5	SW Calf Pasture Island	6/21/2000	2	dry		
103-15.5	SW Calf Pasture Island	1/23/2001	2	dry	8	23
103-15.5	SW Calf Pasture Island	8/28/2001	51	wet		
103-15.5	SW Calf Pasture Island	8/30/2001	6	dry		
103-15.5	SW Calf Pasture Island	1/9/2002	4	dry	9	NA
103-15.5	SW Calf Pasture Island	10/28/2002	22	wet		
103-15.5	SW Calf Pasture Island	2/26/2003	6	wet	14	15
103-15.5	SW Calf Pasture Island	6/17/2003	14	dry		
103-15.5	SW Calf Pasture Island	8/6/2003	51	wet		
103-15.5	SW Calf Pasture Island	8/19/2003	8	wet		
103-15.5	SW Calf Pasture Island	8/23/2004	51	wet	NA	90
103-15.5	SW Calf Pasture Island	8/16/2005	55	wet	NA	90
103-15.5	SW Calf Pasture Island	7/9/2007	2	dry	4	15
103-15.5	SW Calf Pasture Island	9/13/2007	2	wet		
103-15.5	SW Calf Pasture Island	10/30/2007	47	wet		
103-15.5	SW Calf Pasture Island	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
103-15.5	SW Calf Pasture Island	1/15/2008	3	dry	5	4
103-15.5	SW Calf Pasture Island	2/20/2008	1	wet		
103-15.5	SW Calf Pasture Island	8/11/2008	1	dry		
103-15.5	SW Calf Pasture Island	9/10/2008	67	wet		
103-15.5	SW Calf Pasture Island	9/16/2008	6	wet		
103-15.5	SW Calf Pasture Island	12/15/2008	10	wet		
103-15.5	SW Calf Pasture Island	12/23/2008	5	wet		
103-15.5	SW Calf Pasture Island	4/2/2009	1	dry	4	NA
103-15.5	SW Calf Pasture Island	4/22/2009	18	wet		
103-15.5	SW Calf Pasture Island	6/10/2009	5	wet		
103-15.5	SW Calf Pasture Island	8/3/2009	15	wet		
103-15.5	SW Calf Pasture Island	8/26/2009	4	dry		
103-15.5	SW Calf Pasture Island	8/31/2009	4	wet		
103-15.5	SW Calf Pasture Island	9/15/2009	1	dry		
103-15.5	SW Calf Pasture Island	11/16/2009	1	wet		
103-15.5	SW Calf Pasture Island	12/15/2009	30	wet		
103-15.5	SW Calf Pasture Island	3/2/2010	2	wet	8	NA
103-15.5	SW Calf Pasture Island	3/17/2010	1	wet		
103-15.5	SW Calf Pasture Island	5/4/2010	26	wet		
103-15.5	SW Calf Pasture Island	5/19/2010	23	wet		
103-15.5	SW Calf Pasture Island	8/17/2010	24	wet		
103-15.5	SW Calf Pasture Island	8/25/2010	9	wet		
103-15.5	SW Calf Pasture Island	12/13/2010	16	wet		
103-15.5	SW Calf Pasture Island	12/16/2010	6	dry		
103-15.5	SW Calf Pasture Island	1/19/2011	23	wet	4	NA
103-15.5	SW Calf Pasture Island	4/19/2011	4	wet		
103-15.5	SW Calf Pasture Island	4/26/2011	2	dry		
103-15.5	SW Calf Pasture Island	5/23/2011	3	wet		
103-15.5	SW Calf Pasture Island	5/26/2011	8	wet		
103-15.5	SW Calf Pasture Island	6/20/2011	1	wet		
103-15.5	SW Calf Pasture Island	6/27/2011	1	dry		
103-15.5	SW Calf Pasture Island	7/20/2011	8	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.0	G"5" near Pecks Ledge	2/16/2000	2	wet	2	NA
158-02.0	G"5" near Pecks Ledge	5/15/2000	2	wet		
158-02.0	G"5" near Pecks Ledge	6/21/2000	2	dry		
158-02.0	G"5" near Pecks Ledge	9/13/2000	4	wet		
158-02.0	G"5" near Pecks Ledge	1/23/2001	2	dry	6	4
158-02.0	G"5" near Pecks Ledge	2/2/2001	2	dry		
158-02.0	G"5" near Pecks Ledge	2/7/2001	8	wet		
158-02.0	G"5" near Pecks Ledge	8/14/2001	8	wet		
158-02.0	G"5" near Pecks Ledge	8/16/2001	8	dry		
158-02.0	G"5" near Pecks Ledge	8/28/2001	51	wet		
158-02.0	G"5" near Pecks Ledge	8/30/2001	4	dry		
158-02.0	G"5" near Pecks Ledge	1/9/2002	2	dry	2	NA
158-02.0	G"5" near Pecks Ledge	10/28/2002	2	wet		
158-02.0	G"5" near Pecks Ledge	2/26/2003	2	wet	10	19
158-02.0	G"5" near Pecks Ledge	4/30/2003	2	dry		
158-02.0	G"5" near Pecks Ledge	6/2/2003	28	wet		
158-02.0	G"5" near Pecks Ledge	6/11/2003	51	dry		
158-02.0	G"5" near Pecks Ledge	6/17/2003	18	dry		
158-02.0	G"5" near Pecks Ledge	8/6/2003	4	wet		
158-02.0	G"5" near Pecks Ledge	8/18/2003	36	wet		
158-02.0	G"5" near Pecks Ledge	8/23/2004	51	wet	NA	90
158-02.0	G"5" near Pecks Ledge	8/16/2005	45	wet	NA	90
158-02.0	G"5" near Pecks Ledge	9/6/2006	6	dry	NA	NA
158-02.0	G"5" near Pecks Ledge	6/18/2007	2	wet	2	NA
158-02.0	G"5" near Pecks Ledge	6/20/2007	4	dry		
158-02.0	G"5" near Pecks Ledge	7/9/2007	1	dry		
158-02.0	G"5" near Pecks Ledge	7/24/2007	1	wet		
158-02.0	G"5" near Pecks Ledge	9/13/2007	2	wet		
158-02.0	G"5" near Pecks Ledge	12/5/2007	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.0	G"5" near Pecks Ledge	1/15/2008	2	dry	2	NA
158-02.0	G"5" near Pecks Ledge	2/20/2008	1	wet		
158-02.0	G"5" near Pecks Ledge	8/11/2008	1	dry		
158-02.0	G"5" near Pecks Ledge	9/10/2008	12	wet		
158-02.0	G"5" near Pecks Ledge	9/16/2008	3	wet		
158-02.0	G"5" near Pecks Ledge	12/15/2008	1	wet		
158-02.0	G"5" near Pecks Ledge	12/23/2008	2	wet		
158-02.0	G"5" near Pecks Ledge	4/2/2009	1	dry	2	NA
158-02.0	G"5" near Pecks Ledge	4/22/2009	3	wet		
158-02.0	G"5" near Pecks Ledge	6/10/2009	17	wet		
158-02.0	G"5" near Pecks Ledge	6/29/2009	2	dry		
158-02.0	G"5" near Pecks Ledge	7/28/2009	2	dry		
158-02.0	G"5" near Pecks Ledge	8/3/2009	1	wet		
158-02.0	G"5" near Pecks Ledge	8/26/2009	3	dry		
158-02.0	G"5" near Pecks Ledge	8/31/2009	1	wet		
158-02.0	G"5" near Pecks Ledge	9/15/2009	1	dry		
158-02.0	G"5" near Pecks Ledge	10/29/2009	1	wet		
158-02.0	G"5" near Pecks Ledge	11/16/2009	1	wet		
158-02.0	G"5" near Pecks Ledge	3/2/2010	1	wet	3	23
158-02.0	G"5" near Pecks Ledge	3/17/2010	1	wet		
158-02.0	G"5" near Pecks Ledge	5/4/2010	48	wet		
158-02.0	G"5" near Pecks Ledge	5/19/2010	14	wet		
158-02.0	G"5" near Pecks Ledge	8/17/2010	4	wet		
158-02.0	G"5" near Pecks Ledge	8/25/2010	1	wet		
158-02.0	G"5" near Pecks Ledge	9/16/2010	1	wet		
158-02.0	G"5" near Pecks Ledge	12/13/2010	17	wet		
158-02.0	G"5" near Pecks Ledge	12/16/2010	1	wet		
158-02.0	G"5" near Pecks Ledge	3/14/2011	1	dry	1	NA
158-02.0	G"5" near Pecks Ledge	4/26/2011	1	dry		
158-02.0	G"5" near Pecks Ledge	5/23/2011	5	wet		
158-02.0	G"5" near Pecks Ledge	6/27/2011	1	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.1	N. Pecks Ledge	2/16/2000	2	wet	5	15
158-02.1	N. Pecks Ledge	5/15/2000	4	wet		
158-02.1	N. Pecks Ledge	6/21/2000	2	dry		
158-02.1	N. Pecks Ledge	9/13/2000	50	wet		
158-02.1	N. Pecks Ledge	1/23/2001	2	dry	5	19
158-02.1	N. Pecks Ledge	2/2/2001	6	dry		
158-02.1	N. Pecks Ledge	2/7/2001	2	wet		
158-02.1	N. Pecks Ledge	8/14/2001	50	wet		
158-02.1	N. Pecks Ledge	8/16/2001	2	dry		
158-02.1	N. Pecks Ledge	8/28/2001	50	wet		
158-02.1	N. Pecks Ledge	8/30/2001	2	dry		
158-02.1	N. Pecks Ledge	1/9/2002	2	dry	3	NA
158-02.1	N. Pecks Ledge	10/28/2002	6	wet		
158-02.1	N. Pecks Ledge	2/26/2003	4	wet	4	NA
158-02.1	N. Pecks Ledge	2/26/2003	2	wet		
158-02.1	N. Pecks Ledge	4/29/2003	4	dry		
158-02.1	N. Pecks Ledge	6/11/2003	2	dry		
158-02.1	N. Pecks Ledge	8/6/2003	11	wet		
158-02.1	N. Pecks Ledge	8/19/2003	14	wet		
158-02.1	N. Pecks Ledge	8/23/2004	22	wet	NA	NA
158-02.1	N. Pecks Ledge	8/16/2005	16	wet	NA	NA
158-02.1	N. Pecks Ledge	9/6/2006	18	dry	NA	NA
158-02.1	N. Pecks Ledge	6/18/2007	5	wet	2	NA
158-02.1	N. Pecks Ledge	6/20/2007	2	dry		
158-02.1	N. Pecks Ledge	7/9/2007	1	dry		
158-02.1	N. Pecks Ledge	9/13/2007	2	wet		
158-02.1	N. Pecks Ledge	12/5/2007	4	wet		
158-02.1	N. Pecks Ledge	1/15/2008	1	dry	2	NA
158-02.1	N. Pecks Ledge	2/20/2008	2	wet		
158-02.1	N. Pecks Ledge	8/11/2008	1	dry		
158-02.1	N. Pecks Ledge	9/10/2008	11	wet		
158-02.1	N. Pecks Ledge	9/16/2008	2	wet		
158-02.1	N. Pecks Ledge	12/23/2008	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.1	N. Pecks Ledge	4/2/2009	1	dry	2	NA
158-02.1	N. Pecks Ledge	4/22/2009	4	wet		
158-02.1	N. Pecks Ledge	6/10/2009	1	wet		
158-02.1	N. Pecks Ledge	6/29/2009	5	dry		
158-02.1	N. Pecks Ledge	7/28/2009	1	dry		
158-02.1	N. Pecks Ledge	8/3/2009	5	wet		
158-02.1	N. Pecks Ledge	8/26/2009	1	dry		
158-02.1	N. Pecks Ledge	8/31/2009	1	wet		
158-02.1	N. Pecks Ledge	9/15/2009	1	dry		
158-02.1	N. Pecks Ledge	10/28/2009	2	dry		
158-02.1	N. Pecks Ledge	10/29/2009	3	wet		
158-02.1	N. Pecks Ledge	11/16/2009	1	wet		
158-02.1	N. Pecks Ledge	3/2/2010	1	wet	4	NA
158-02.1	N. Pecks Ledge	3/17/2010	1	wet		
158-02.1	N. Pecks Ledge	5/4/2010	29	wet		
158-02.1	N. Pecks Ledge	5/19/2010	9	wet		
158-02.1	N. Pecks Ledge	8/17/2010	5	wet		
158-02.1	N. Pecks Ledge	8/25/2010	12	wet		
158-02.1	N. Pecks Ledge	9/16/2010	1	wet		
158-02.1	N. Pecks Ledge	12/13/2010	11	wet		
158-02.1	N. Pecks Ledge	12/16/2010	1	wet		
158-02.2	SW Cockenoe Island N"4"	4/24/2000	2	wet	6	3
158-02.2	SW Cockenoe Island N"4"	5/25/2000	50	wet		
158-02.2	SW Cockenoe Island N"4"	6/20/2000	8	wet		
158-02.2	SW Cockenoe Island N"4"	6/21/2000	6	dry		
158-02.2	SW Cockenoe Island N"4"	7/18/2000	14	dry		
158-02.2	SW Cockenoe Island N"4"	7/19/2000	2	dry		
158-02.2	SW Cockenoe Island N"4"	9/14/2000	4	wet		
158-02.2	SW Cockenoe Island N"4"	11/13/2000	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.2	SW Cockenoe Island N"4"	2/2/2001	8	dry	4	NA
158-02.2	SW Cockenoe Island N"4"	4/2/2001	6	wet		
158-02.2	SW Cockenoe Island N"4"	5/29/2001	6	dry		
158-02.2	SW Cockenoe Island N"4"	6/20/2001	2	dry		
158-02.2	SW Cockenoe Island N"4"	8/14/2001	6	wet		
158-02.2	SW Cockenoe Island N"4"	8/16/2001	6	dry		
158-02.2	SW Cockenoe Island N"4"	8/30/2001	2	dry		
158-02.2	SW Cockenoe Island N"4"	9/24/2001	2	wet		
158-02.2	SW Cockenoe Island N"4"	5/22/2002	2	dry	4	NA
158-02.2	SW Cockenoe Island N"4"	6/11/2002	6	wet		
158-02.2	SW Cockenoe Island N"4"	6/17/2002	6	dry		
158-02.2	SW Cockenoe Island N"4"	9/4/2002	18	wet		
158-02.2	SW Cockenoe Island N"4"	9/30/2002	2	dry		
158-02.2	SW Cockenoe Island N"4"	10/28/2002	2	wet		
158-02.2	SW Cockenoe Island N"4"	4/30/2003	2	dry	8	19
158-02.2	SW Cockenoe Island N"4"	6/2/2003	50	wet		
158-02.2	SW Cockenoe Island N"4"	6/11/2003	22	dry		
158-02.2	SW Cockenoe Island N"4"	6/17/2003	50	dry		
158-02.2	SW Cockenoe Island N"4"	8/6/2003	4	wet		
158-02.2	SW Cockenoe Island N"4"	8/18/2003	2	wet		
158-02.2	SW Cockenoe Island N"4"	10/2/2003	4	dry		
158-02.2	SW Cockenoe Island N"4"	7/7/2004	6	wet	6	15
158-02.2	SW Cockenoe Island N"4"	8/9/2004	2	dry		
158-02.2	SW Cockenoe Island N"4"	9/13/2004	4	wet		
158-02.2	SW Cockenoe Island N"4"	9/21/2004	50	wet		
158-02.2	SW Cockenoe Island N"4"	8/16/2005	39	wet	NA	90
158-02.2	SW Cockenoe Island N"4"	7/17/2006	1	dry	4	4
158-02.2	SW Cockenoe Island N"4"	8/31/2006	45	wet		
158-02.2	SW Cockenoe Island N"4"	9/5/2006	4	wet		
158-02.2	SW Cockenoe Island N"4"	9/6/2006	4	dry		
158-02.2	SW Cockenoe Island N"4"	10/16/2006	1	dry		
158-02.2	SW Cockenoe Island N"4"	11/1/2006	2	wet		
158-02.2	SW Cockenoe Island N"4"	11/27/2006	11	dry		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-02.2	SW Cockenoe Island N"4"	6/7/2007	1	wet	1	NA
158-02.2	SW Cockenoe Island N"4"	6/20/2007	1	dry		
158-02.2	SW Cockenoe Island N"4"	7/9/2007	1	dry		
158-02.2	SW Cockenoe Island N"4"	7/24/2007	1	wet		
158-02.2	SW Cockenoe Island N"4"	9/13/2007	1	wet		
158-02.2	SW Cockenoe Island N"4"	12/5/2007	1	wet		
158-02.2	SW Cockenoe Island N"4"	2/4/2008	1	dry	2	NA
158-02.2	SW Cockenoe Island N"4"	2/20/2008	1	wet		
158-02.2	SW Cockenoe Island N"4"	8/11/2008	1	dry		
158-02.2	SW Cockenoe Island N"4"	9/10/2008	8	wet		
158-02.2	SW Cockenoe Island N"4"	12/15/2008	1	wet		
158-02.2	SW Cockenoe Island N"4"	12/16/2008	1	wet		
158-02.2	SW Cockenoe Island N"4"	12/23/2008	4	wet		
158-02.2	SW Cockenoe Island N"4"	4/2/2009	1	dry	2	NA
158-02.2	SW Cockenoe Island N"4"	4/22/2009	1	wet		
158-02.2	SW Cockenoe Island N"4"	6/10/2009	20	wet		
158-02.2	SW Cockenoe Island N"4"	6/29/2009	1	dry		
158-02.2	SW Cockenoe Island N"4"	7/28/2009	1	dry		
158-02.2	SW Cockenoe Island N"4"	8/3/2009	4	wet		
158-02.2	SW Cockenoe Island N"4"	8/26/2009	1	dry		
158-02.2	SW Cockenoe Island N"4"	8/31/2009	1	wet		
158-02.2	SW Cockenoe Island N"4"	9/15/2009	1	dry		
158-02.2	SW Cockenoe Island N"4"	10/29/2009	4	wet		
158-02.2	SW Cockenoe Island N"4"	11/16/2009	1	wet		
158-02.2	SW Cockenoe Island N"4"	3/2/2010	1	wet	2	NA
158-02.2	SW Cockenoe Island N"4"	3/17/2010	1	wet		
158-02.2	SW Cockenoe Island N"4"	3/25/2010	2	wet		
158-02.2	SW Cockenoe Island N"4"	5/4/2010	16	wet		
158-02.2	SW Cockenoe Island N"4"	5/19/2010	5	wet		
158-02.2	SW Cockenoe Island N"4"	8/17/2010	2	wet		
158-02.2	SW Cockenoe Island N"4"	8/25/2010	1	wet		
158-02.2	SW Cockenoe Island N"4"	9/16/2010	1	wet		
158-02.2	SW Cockenoe Island N"4"	12/13/2010	7	wet		
158-02.2	SW Cockenoe Island N"4"	12/16/2010	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-04.0	SE Sprite Island	2/16/2000	2	wet	2	NA
158-04.0	SE Sprite Island	5/15/2000	2	wet		
158-04.0	SE Sprite Island	6/21/2000	2	dry		
158-04.0	SE Sprite Island	9/13/2000	4	wet		
158-04.0	SE Sprite Island	1/23/2001	4	dry	7	10
158-04.0	SE Sprite Island	2/7/2001	2	wet		
158-04.0	SE Sprite Island	8/14/2001	11	wet		
158-04.0	SE Sprite Island	8/28/2001	50	wet		
158-04.0	SE Sprite Island	8/30/2001	4	dry		
158-04.0	SE Sprite Island	1/9/2002	6	dry	3	5
158-04.0	SE Sprite Island	10/28/2002	2	wet		
158-04.0	SE Sprite Island	2/26/2003	2	wet	4	NA
158-04.0	SE Sprite Island	4/29/2003	2	dry		
158-04.0	SE Sprite Island	6/11/2003	28	dry		
158-04.0	SE Sprite Island	8/6/2003	6	wet		
158-04.0	SE Sprite Island	8/19/2003	4	wet		
158-04.0	SE Sprite Island	8/23/2004	8	wet	NA	NA
158-04.0	SE Sprite Island	8/16/2005	29	wet	NA	NA
158-04.0	SE Sprite Island	9/6/2006	11	dry	NA	NA
158-04.0	SE Sprite Island	6/18/2007	21	wet	3	NA
158-04.0	SE Sprite Island	6/20/2007	1	dry		
158-04.0	SE Sprite Island	7/9/2007	2	dry		
158-04.0	SE Sprite Island	9/13/2007	6	wet		
158-04.0	SE Sprite Island	10/30/2007	1	dry		
158-04.0	SE Sprite Island	12/5/2007	3	wet		
158-04.0	SE Sprite Island	1/15/2008	2	dry	2	NA
158-04.0	SE Sprite Island	2/20/2008	2	wet		
158-04.0	SE Sprite Island	8/11/2008	1	dry		
158-04.0	SE Sprite Island	9/10/2008	5	wet		
158-04.0	SE Sprite Island	9/16/2008	3	wet		
158-04.0	SE Sprite Island	12/15/2008	1	wet		
158-04.0	SE Sprite Island	12/23/2008	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-04.0	SE Sprite Island	4/2/2009	1	dry	2	NA
158-04.0	SE Sprite Island	4/22/2009	10	wet		
158-04.0	SE Sprite Island	6/11/2009	6	wet		
158-04.0	SE Sprite Island	6/29/2009	2	dry		
158-04.0	SE Sprite Island	7/28/2009	1	dry		
158-04.0	SE Sprite Island	8/3/2009	3	wet		
158-04.0	SE Sprite Island	8/26/2009	3	dry		
158-04.0	SE Sprite Island	8/31/2009	1	wet		
158-04.0	SE Sprite Island	9/15/2009	1	dry		
158-04.0	SE Sprite Island	11/16/2009	1	wet		
158-04.0	SE Sprite Island	3/2/2010	1	wet	4	NA
158-04.0	SE Sprite Island	3/17/2010	1	wet		
158-04.0	SE Sprite Island	5/4/2010	6	wet		
158-04.0	SE Sprite Island	5/19/2010	10	wet		
158-04.0	SE Sprite Island	6/23/2010	2	wet		
158-04.0	SE Sprite Island	8/17/2010	13	wet		
158-04.0	SE Sprite Island	8/25/2010	24	wet		
158-04.0	SE Sprite Island	9/16/2010	1	wet		
158-04.0	SE Sprite Island	12/13/2010	6	wet		
158-04.0	SE Sprite Island	12/16/2010	3	wet		
158-04.0	SE Sprite Island	3/14/2011	1	dry	2	NA
158-04.0	SE Sprite Island	4/19/2011	3	wet		
158-04.0	SE Sprite Island	4/26/2011	1	dry		
158-04.0	SE Sprite Island	5/23/2011	5	wet		
158-04.0	SE Sprite Island	6/20/2011	3	wet		
158-04.0	SE Sprite Island	6/27/2011	3	dry		
158-04.0	SE Sprite Island	7/20/2011	4	wet		
158-05.0	NW Cockenoe Island	2/16/2000	2	wet	2	NA
158-05.0	NW Cockenoe Island	5/15/2000	2	wet		
158-05.0	NW Cockenoe Island	6/21/2000	2	dry		
158-05.0	NW Cockenoe Island	9/13/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/ Dry	Geo Mean	Reduction of Exceeding Samples
158-05.0	NW Cockenoe Island	1/23/2001	2	dry	4	NA
158-05.0	NW Cockenoe Island	2/7/2001	2	wet		
158-05.0	NW Cockenoe Island	8/14/2001	6	wet		
158-05.0	NW Cockenoe Island	8/28/2001	6	wet		
158-05.0	NW Cockenoe Island	8/30/2001	6	dry		
158-05.0	NW Cockenoe Island	1/9/2002	4	dry	2	NA
158-05.0	NW Cockenoe Island	10/28/2002	2	wet		
158-05.0	NW Cockenoe Island	2/26/2003	2	wet	5	NA
158-05.0	NW Cockenoe Island	4/29/2003	2	dry		
158-05.0	NW Cockenoe Island	6/11/2003	18	dry		
158-05.0	NW Cockenoe Island	8/6/2003	11	wet		
158-05.0	NW Cockenoe Island	8/19/2003	8	wet		
158-05.0	NW Cockenoe Island	8/23/2004	18	wet	NA	NA
158-05.0	NW Cockenoe Island	8/16/2005	19	wet	NA	NA
158-05.0	NW Cockenoe Island	9/6/2006	1	dry	NA	NA
158-05.0	NW Cockenoe Island	6/18/2007	58	wet	3	7
158-05.0	NW Cockenoe Island	6/20/2007	1	dry		
158-05.0	NW Cockenoe Island	7/9/2007	2	dry		
158-05.0	NW Cockenoe Island	9/13/2007	1	wet		
158-05.0	NW Cockenoe Island	10/30/2007	2	dry		
158-05.0	NW Cockenoe Island	12/5/2007	3	wet		
158-05.0	NW Cockenoe Island	2/20/2008	1	wet	2	NA
158-05.0	NW Cockenoe Island	8/11/2008	1	dry		
158-05.0	NW Cockenoe Island	9/10/2008	8	wet		
158-05.0	NW Cockenoe Island	9/16/2008	1	wet		
158-05.0	NW Cockenoe Island	12/15/2008	2	wet		
158-05.0	NW Cockenoe Island	12/23/2008	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-05.0	NW Cockenoe Island	4/22/2009	6	wet	2	NA
158-05.0	NW Cockenoe Island	6/10/2009	25	wet		
158-05.0	NW Cockenoe Island	6/29/2009	1	dry		
158-05.0	NW Cockenoe Island	7/28/2009	1	dry		
158-05.0	NW Cockenoe Island	8/3/2009	12	wet		
158-05.0	NW Cockenoe Island	8/26/2009	1	dry		
158-05.0	NW Cockenoe Island	8/31/2009	1	wet		
158-05.0	NW Cockenoe Island	9/15/2009	1	dry		
158-05.0	NW Cockenoe Island	10/28/2009	1	dry		
158-05.0	NW Cockenoe Island	11/16/2009	1	wet		
158-05.0	NW Cockenoe Island	3/2/2010	1	wet	2	NA
158-05.0	NW Cockenoe Island	3/17/2010	1	wet		
158-05.0	NW Cockenoe Island	5/4/2010	1	wet		
158-05.0	NW Cockenoe Island	5/19/2010	2	wet		
158-05.0	NW Cockenoe Island	6/23/2010	1	wet		
158-05.0	NW Cockenoe Island	8/17/2010	4	wet		
158-05.0	NW Cockenoe Island	8/25/2010	10	wet		
158-05.0	NW Cockenoe Island	9/16/2010	1	wet		
158-05.0	NW Cockenoe Island	12/13/2010	5	wet		
158-05.0	NW Cockenoe Island	12/16/2010	3	wet		
158-05.0	NW Cockenoe Island	3/14/2011	1	dry	3	NA
158-05.0	NW Cockenoe Island	4/19/2011	2	wet		
158-05.0	NW Cockenoe Island	4/26/2011	1	dry		
158-05.0	NW Cockenoe Island	5/23/2011	14	wet		
158-05.0	NW Cockenoe Island	6/20/2011	6	wet		
158-05.0	NW Cockenoe Island	6/27/2011	5	dry		
158-05.0	NW Cockenoe Island	7/20/2011	1	wet		
158-06.0	Cockenoe Island Cove	2/16/2000	2	wet	3	NA
158-06.0	Cockenoe Island Cove	5/15/2000	9	wet		
158-06.0	Cockenoe Island Cove	6/21/2000	2	dry		
158-06.0	Cockenoe Island Cove	9/13/2000	4	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-06.0	Cockenoe Island Cove	1/23/2001	2	dry	5	NA
158-06.0	Cockenoe Island Cove	2/7/2001	2	wet		
158-06.0	Cockenoe Island Cove	8/14/2001	11	wet		
158-06.0	Cockenoe Island Cove	8/28/2001	28	wet		
158-06.0	Cockenoe Island Cove	8/30/2001	4	dry		
158-06.0	Cockenoe Island Cove	1/9/2002	2	dry	2	NA
158-06.0	Cockenoe Island Cove	10/28/2002	2	wet		
158-06.0	Cockenoe Island Cove	2/26/2003	2	wet	10	30
158-06.0	Cockenoe Island Cove	4/29/2003	2	dry		
158-06.0	Cockenoe Island Cove	6/11/2003	36	dry		
158-06.0	Cockenoe Island Cove	8/6/2003	50	wet		
158-06.0	Cockenoe Island Cove	8/19/2003	22	wet		
158-06.0	Cockenoe Island Cove	8/23/2004	11	wet	NA	NA
158-06.0	Cockenoe Island Cove	8/16/2005	71	wet	NA	90
158-06.0	Cockenoe Island Cove	9/6/2006	8	dry	NA	NA
158-06.0	Cockenoe Island Cove	6/18/2007	36	wet	5	10
158-06.0	Cockenoe Island Cove	6/20/2007	5	dry		
158-06.0	Cockenoe Island Cove	7/9/2007	4	dry		
158-06.0	Cockenoe Island Cove	9/13/2007	2	wet		
158-06.0	Cockenoe Island Cove	12/5/2007	2	wet		
158-06.0	Cockenoe Island Cove	2/20/2008	1	wet	2	NA
158-06.0	Cockenoe Island Cove	8/11/2008	1	dry		
158-06.0	Cockenoe Island Cove	9/10/2008	12	wet		
158-06.0	Cockenoe Island Cove	9/16/2008	2	wet		
158-06.0	Cockenoe Island Cove	12/23/2008	3	wet		
158-06.0	Cockenoe Island Cove	4/2/2009	1	dry	2	NA
158-06.0	Cockenoe Island Cove	4/22/2009	4	wet		
158-06.0	Cockenoe Island Cove	6/10/2009	64	wet		
158-06.0	Cockenoe Island Cove	6/29/2009	8	dry		
158-06.0	Cockenoe Island Cove	7/28/2009	1	dry		
158-06.0	Cockenoe Island Cove	8/3/2009	1	wet		
158-06.0	Cockenoe Island Cove	8/26/2009	2	dry		
158-06.0	Cockenoe Island Cove	8/31/2009	1	wet		
158-06.0	Cockenoe Island Cove	9/15/2009	1	dry		
158-06.0	Cockenoe Island Cove	11/16/2009	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-06.0	Cockenoe Island Cove	3/17/2010	1	wet	3	NA
158-06.0	Cockenoe Island Cove	5/4/2010	1	wet		
158-06.0	Cockenoe Island Cove	5/19/2010	1	wet		
158-06.0	Cockenoe Island Cove	6/23/2010	3	wet		
158-06.0	Cockenoe Island Cove	8/17/2010	5	wet		
158-06.0	Cockenoe Island Cove	8/25/2010	18	wet		
158-06.0	Cockenoe Island Cove	9/16/2010	1	wet		
158-06.0	Cockenoe Island Cove	12/13/2010	9	wet		
158-06.0	Cockenoe Island Cove	12/16/2010	3	wet		
158-06.0	Cockenoe Island Cove	3/14/2011	1	dry	2	NA
158-06.0	Cockenoe Island Cove	4/19/2011	7	wet		
158-06.0	Cockenoe Island Cove	4/26/2011	1	dry		
158-06.0	Cockenoe Island Cove	5/23/2011	6	wet		
158-06.0	Cockenoe Island Cove	6/20/2011	1	wet		
158-06.0	Cockenoe Island Cove	6/27/2011	4	dry		
158-06.0	Cockenoe Island Cove	7/20/2011	1	wet		
158-14.1	N. side Goose Island	2/16/2000	2	wet	4	NA
158-14.1	N. side Goose Island	5/15/2000	2	wet		
158-14.1	N. side Goose Island	6/21/2000	8	dry		
158-14.1	N. side Goose Island	9/13/2000	8	wet		
158-14.1	N. side Goose Island	1/23/2001	2	dry	2	NA
158-14.1	N. side Goose Island	2/2/2001	4	dry		
158-14.1	N. side Goose Island	2/7/2001	2	wet		
158-14.1	N. side Goose Island	8/14/2001	2	wet		
158-14.1	N. side Goose Island	8/30/2001	6	dry		
158-14.1	N. side Goose Island	1/9/2002	2	dry	3	NA
158-14.1	N. side Goose Island	10/28/2002	6	wet		
158-14.1	N. side Goose Island	2/26/2003	2	wet	5	NA
158-14.1	N. side Goose Island	8/6/2003	8	wet		
158-14.1	N. side Goose Island	8/19/2003	11	wet		
158-14.1	N. side Goose Island	10/2/2003	4	dry		
158-14.1	N. side Goose Island	7/7/2004	2	wet	9	40
158-14.1	N. side Goose Island	8/23/2004	51	wet		
158-14.1	N. side Goose Island	8/16/2005	44	wet	NA	90
158-14.1	N. side Goose Island	9/6/2006	4	dry	NA	NA

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-14.1	N. side Goose Island	6/18/2007	11	wet	2	NA
158-14.1	N. side Goose Island	6/20/2007	1	dry		
158-14.1	N. side Goose Island	7/9/2007	1	dry		
158-14.1	N. side Goose Island	9/13/2007	1	wet		
158-14.1	N. side Goose Island	12/5/2007	1	wet		
158-14.1	N. side Goose Island	1/15/2008	7	dry	3	4
158-14.1	N. side Goose Island	2/20/2008	1	wet		
158-14.1	N. side Goose Island	8/11/2008	3	dry		
158-14.1	N. side Goose Island	9/10/2008	38	wet		
158-14.1	N. side Goose Island	9/16/2008	1	wet		
158-14.1	N. side Goose Island	12/15/2008	2	wet		
158-14.1	N. side Goose Island	12/23/2008	4	wet		
158-14.1	N. side Goose Island	4/2/2009	1	dry	2	NA
158-14.1	N. side Goose Island	4/22/2009	3	wet		
158-14.1	N. side Goose Island	6/10/2009	27	wet		
158-14.1	N. side Goose Island	6/29/2009	3	dry		
158-14.1	N. side Goose Island	7/28/2009	1	dry		
158-14.1	N. side Goose Island	8/3/2009	1	wet		
158-14.1	N. side Goose Island	8/26/2009	1	dry		
158-14.1	N. side Goose Island	8/31/2009	1	wet		
158-14.1	N. side Goose Island	9/15/2009	1	dry		
158-14.1	N. side Goose Island	11/16/2009	1	wet		
158-14.1	N. side Goose Island	3/17/2010	1	wet	4	3
158-14.1	N. side Goose Island	5/4/2010	14	wet		
158-14.1	N. side Goose Island	5/19/2010	9	wet		
158-14.1	N. side Goose Island	8/17/2010	2	wet		
158-14.1	N. side Goose Island	8/25/2010	1	wet		
158-14.1	N. side Goose Island	9/16/2010	1	wet		
158-14.1	N. side Goose Island	12/13/2010	76	wet		
158-14.1	N. side Goose Island	12/16/2010	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-14.1	N. side Goose Island	3/14/2011	1	dry	2	NA
158-14.1	N. side Goose Island	4/19/2011	3	wet		
158-14.1	N. side Goose Island	4/26/2011	1	dry		
158-14.1	N. side Goose Island	5/23/2011	12	wet		
158-14.1	N. side Goose Island	6/20/2011	10	wet		
158-14.1	N. side Goose Island	6/27/2011	1	dry		
158-14.1	N. side Goose Island	6/27/2011	1	dry		
158-14.1	N. side Goose Island	7/20/2011	3	wet		
158-19.0	E. Sheep Rocks	2/16/2000	2	wet	2	NA
158-19.0	E. Sheep Rocks	5/15/2000	2	wet		
158-19.0	E. Sheep Rocks	6/21/2000	2	dry		
158-19.0	E. Sheep Rocks	9/13/2000	2	wet		
158-19.0	E. Sheep Rocks	1/23/2001	2	dry	6	10
158-19.0	E. Sheep Rocks	2/7/2001	4	wet		
158-19.0	E. Sheep Rocks	8/14/2001	8	wet		
158-19.0	E. Sheep Rocks	8/28/2001	36	wet		
158-19.0	E. Sheep Rocks	8/30/2001	4	dry		
158-19.0	E. Sheep Rocks	1/9/2002	6	dry	8	NA
158-19.0	E. Sheep Rocks	10/28/2002	11	wet		
158-19.0	E. Sheep Rocks	2/26/2003	2	wet	6	NA
158-19.0	E. Sheep Rocks	4/29/2003	2	dry		
158-19.0	E. Sheep Rocks	6/11/2003	14	dry		
158-19.0	E. Sheep Rocks	8/6/2003	8	wet		
158-19.0	E. Sheep Rocks	8/19/2003	18	wet		
158-19.0	E. Sheep Rocks	7/7/2004	2	wet	9	40
158-19.0	E. Sheep Rocks	8/23/2004	51	wet		
158-19.0	E. Sheep Rocks	8/16/2005	37	wet	NA	90
158-19.0	E. Sheep Rocks	9/6/2006	18	dry	NA	NA
158-19.0	E. Sheep Rocks	6/18/2007	3	wet	2	NA
158-19.0	E. Sheep Rocks	6/20/2007	3	dry		
158-19.0	E. Sheep Rocks	7/9/2007	1	dry		
158-19.0	E. Sheep Rocks	9/13/2007	1	wet		
158-19.0	E. Sheep Rocks	12/5/2007	3	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-19.0	E. Sheep Rocks	1/15/2008	2	dry	2	NA
158-19.0	E. Sheep Rocks	2/20/2008	1	wet		
158-19.0	E. Sheep Rocks	8/11/2008	1	dry		
158-19.0	E. Sheep Rocks	9/10/2008	2	wet		
158-19.0	E. Sheep Rocks	9/16/2008	2	wet		
158-19.0	E. Sheep Rocks	12/15/2008	4	wet		
158-19.0	E. Sheep Rocks	12/23/2008	5	wet		
158-19.0	E. Sheep Rocks	4/2/2009	1	dry	1	NA
158-19.0	E. Sheep Rocks	4/22/2009	1	wet		
158-19.0	E. Sheep Rocks	6/10/2009	4	wet		
158-19.0	E. Sheep Rocks	6/10/2009	3	wet		
158-19.0	E. Sheep Rocks	6/29/2009	2	dry		
158-19.0	E. Sheep Rocks	7/28/2009	3	dry		
158-19.0	E. Sheep Rocks	8/3/2009	1	wet		
158-19.0	E. Sheep Rocks	8/26/2009	1	dry		
158-19.0	E. Sheep Rocks	8/31/2009	1	wet		
158-19.0	E. Sheep Rocks	9/15/2009	1	dry		
158-19.0	E. Sheep Rocks	11/16/2009	1	wet		
158-19.0	E. Sheep Rocks	3/2/2010	1	wet	2	NA
158-19.0	E. Sheep Rocks	3/17/2010	1	wet		
158-19.0	E. Sheep Rocks	5/4/2010	8	wet		
158-19.0	E. Sheep Rocks	5/19/2010	1	wet		
158-19.0	E. Sheep Rocks	6/23/2010	1	wet		
158-19.0	E. Sheep Rocks	8/17/2010	5	wet		
158-19.0	E. Sheep Rocks	8/25/2010	32	wet		
158-19.0	E. Sheep Rocks	9/16/2010	1	wet		
158-19.0	E. Sheep Rocks	12/13/2010	6	wet		
158-19.0	E. Sheep Rocks	12/16/2010	1	wet		
158-19.0	E. Sheep Rocks	3/14/2011	1	dry	1	NA
158-19.0	E. Sheep Rocks	4/19/2011	1	wet		
158-19.0	E. Sheep Rocks	4/26/2011	1	dry		
158-19.0	E. Sheep Rocks	5/23/2011	4	wet		
158-19.0	E. Sheep Rocks	6/20/2011	1	wet		
158-19.0	E. Sheep Rocks	6/27/2011	1	dry		
158-19.0	E. Sheep Rocks	7/20/2011	1	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-20.0	W. Cockenoe Island	2/16/2000	2	wet	2	NA
158-20.0	W. Cockenoe Island	5/15/2000	2	wet		
158-20.0	W. Cockenoe Island	6/21/2000	2	dry		
158-20.0	W. Cockenoe Island	9/13/2000	2	wet		
158-20.0	W. Cockenoe Island	1/23/2001	2	dry	3	7
158-20.0	W. Cockenoe Island	2/2/2001	4	dry		
158-20.0	W. Cockenoe Island	2/7/2001	2	wet		
158-20.0	W. Cockenoe Island	8/14/2001	2	wet		
158-20.0	W. Cockenoe Island	8/28/2001	36	wet		
158-20.0	W. Cockenoe Island	8/30/2001	2	dry		
158-20.0	W. Cockenoe Island	1/9/2002	11	dry	4	NA
158-20.0	W. Cockenoe Island	10/28/2002	2	wet		
158-20.0	W. Cockenoe Island	2/26/2003	2	wet	3	NA
158-20.0	W. Cockenoe Island	4/30/2003	2	dry		
158-20.0	W. Cockenoe Island	6/11/2003	4	dry		
158-20.0	W. Cockenoe Island	8/6/2003	11	wet		
158-20.0	W. Cockenoe Island	8/19/2003	4	wet		
158-20.0	W. Cockenoe Island	7/7/2004	2	wet	8	40
158-20.0	W. Cockenoe Island	8/23/2004	36	wet		
158-20.0	W. Cockenoe Island	8/16/2005	21	wet	NA	NA
158-20.0	W. Cockenoe Island	9/6/2006	7	dry	NA	NA
158-20.0	W. Cockenoe Island	6/18/2007	1	wet	1	NA
158-20.0	W. Cockenoe Island	6/20/2007	1	dry		
158-20.0	W. Cockenoe Island	7/9/2007	1	dry		
158-20.0	W. Cockenoe Island	9/13/2007	1	wet		
158-20.0	W. Cockenoe Island	12/5/2007	2	wet		
158-20.0	W. Cockenoe Island	1/15/2008	1	dry	1	NA
158-20.0	W. Cockenoe Island	2/20/2008	1	wet		
158-20.0	W. Cockenoe Island	8/11/2008	1	dry		
158-20.0	W. Cockenoe Island	9/10/2008	5	wet		
158-20.0	W. Cockenoe Island	9/16/2008	1	wet		
158-20.0	W. Cockenoe Island	12/15/2008	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-20.0	W. Cockenoe Island	4/2/2009	1	dry	2	NA
158-20.0	W. Cockenoe Island	4/22/2009	4	wet		
158-20.0	W. Cockenoe Island	6/10/2009	9	wet		
158-20.0	W. Cockenoe Island	6/29/2009	1	dry		
158-20.0	W. Cockenoe Island	7/28/2009	1	dry		
158-20.0	W. Cockenoe Island	8/3/2009	1	wet		
158-20.0	W. Cockenoe Island	8/26/2009	1	dry		
158-20.0	W. Cockenoe Island	8/31/2009	1	wet		
158-20.0	W. Cockenoe Island	9/15/2009	1	dry		
158-20.0	W. Cockenoe Island	10/28/2009	4	dry		
158-20.0	W. Cockenoe Island	11/16/2009	1	wet		
158-20.0	W. Cockenoe Island	3/2/2010	1	wet	3	NA
158-20.0	W. Cockenoe Island	3/17/2010	1	wet		
158-20.0	W. Cockenoe Island	5/4/2010	7	wet		
158-20.0	W. Cockenoe Island	5/19/2010	4	wet		
158-20.0	W. Cockenoe Island	8/17/2010	1	wet		
158-20.0	W. Cockenoe Island	8/25/2010	18	wet		
158-20.0	W. Cockenoe Island	9/16/2010	1	wet		
158-20.0	W. Cockenoe Island	12/13/2010	13	wet		
158-20.0	W. Cockenoe Island	12/16/2010	2	wet		
158-20.0	W. Cockenoe Island	3/14/2011	1	dry	1	NA
158-20.0	W. Cockenoe Island	4/19/2011	1	wet		
158-20.0	W. Cockenoe Island	4/26/2011	1	dry		
158-20.0	W. Cockenoe Island	5/23/2011	1	wet		
158-20.0	W. Cockenoe Island	6/20/2011	1	wet		
158-20.0	W. Cockenoe Island	6/27/2011	1	dry		
158-20.0	W. Cockenoe Island	7/20/2011	2	wet		
158-21.0	E. Grassy Hammock	2/16/2000	2	wet	3	NA
158-21.0	E. Grassy Hammock	5/15/2000	11	wet		
158-21.0	E. Grassy Hammock	6/21/2000	4	dry		
158-21.0	E. Grassy Hammock	9/13/2000	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-21.0	E. Grassy Hammock	1/23/2001	2	dry	8	7
158-21.0	E. Grassy Hammock	2/2/2001	8	dry		
158-21.0	E. Grassy Hammock	2/7/2001	2	wet		
158-21.0	E. Grassy Hammock	8/14/2001	22	wet		
158-21.0	E. Grassy Hammock	8/28/2001	51	wet		
158-21.0	E. Grassy Hammock	8/30/2001	11	dry		
158-21.0	E. Grassy Hammock	1/9/2002	11	dry	4	NA
158-21.0	E. Grassy Hammock	10/28/2002	2	wet		
158-21.0	E. Grassy Hammock	4/30/2003	2	dry	6	NA
158-21.0	E. Grassy Hammock	6/11/2003	4	dry		
158-21.0	E. Grassy Hammock	8/6/2003	14	wet		
158-21.0	E. Grassy Hammock	8/19/2003	14	wet		
158-21.0	E. Grassy Hammock	3/8/2004	15	wet	28* (50%)	40
158-21.0	E. Grassy Hammock	8/23/2004	51	wet		
158-21.0	E. Grassy Hammock	8/16/2005	29	wet	NA	NA
158-21.0	E. Grassy Hammock	9/6/2006	9	dry	NA	NA
158-21.0	E. Grassy Hammock	6/18/2007	12	wet	2	NA
158-21.0	E. Grassy Hammock	7/9/2007	1	dry		
158-21.0	E. Grassy Hammock	9/13/2007	3	wet		
158-21.0	E. Grassy Hammock	12/5/2007	1	wet		
158-21.0	E. Grassy Hammock	1/15/2008	5	dry	3	NA
158-21.0	E. Grassy Hammock	2/20/2008	2	wet		
158-21.0	E. Grassy Hammock	8/11/2008	1	dry		
158-21.0	E. Grassy Hammock	9/10/2008	30	wet		
158-21.0	E. Grassy Hammock	9/16/2008	4	wet		
158-21.0	E. Grassy Hammock	12/15/2008	2	wet		
158-21.0	E. Grassy Hammock	12/16/2008	4	wet		
158-21.0	E. Grassy Hammock	12/23/2008	2	wet		

Single sample fecal coliform data (colonies/100 mL) from all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I) with annual geometric means and reduction goals for samples

Station Name	Station Location	Date	Result	Wet/Dry	Geo Mean	Reduction of Exceeding Samples
158-21.0	E. Grassy Hammock	4/2/2009	1	dry	2	NA
158-21.0	E. Grassy Hammock	4/22/2009	3	wet		
158-21.0	E. Grassy Hammock	6/10/2009	12	wet		
158-21.0	E. Grassy Hammock	6/29/2009	5	dry		
158-21.0	E. Grassy Hammock	7/28/2009	1	dry		
158-21.0	E. Grassy Hammock	8/3/2009	2	wet		
158-21.0	E. Grassy Hammock	8/26/2009	3	dry		
158-21.0	E. Grassy Hammock	8/31/2009	1	wet		
158-21.0	E. Grassy Hammock	9/15/2009	1	dry		
158-21.0	E. Grassy Hammock	10/28/2009	1	dry		
158-21.0	E. Grassy Hammock	10/29/2009	4	wet		
158-21.0	E. Grassy Hammock	11/16/2009	1	wet		
158-21.0	E. Grassy Hammock	3/17/2010	1	wet	4	3
158-21.0	E. Grassy Hammock	5/4/2010	33	wet		
158-21.0	E. Grassy Hammock	5/19/2010	15	wet		
158-21.0	E. Grassy Hammock	8/17/2010	10	wet		
158-21.0	E. Grassy Hammock	8/25/2010	1	wet		
158-21.0	E. Grassy Hammock	9/16/2010	1	wet		
158-21.0	E. Grassy Hammock	12/13/2010	9	wet		
158-21.0	E. Grassy Hammock	12/16/2010	1	wet		
158-21.0	E. Grassy Hammock	3/14/2011	16	dry	2	NA
158-21.0	E. Grassy Hammock	4/19/2011	1	wet		
158-21.0	E. Grassy Hammock	4/26/2011	1	dry		
158-21.0	E. Grassy Hammock	5/23/2011	2	wet		
158-21.0	E. Grassy Hammock	6/20/2011	2	wet		
158-21.0	E. Grassy Hammock	6/27/2011	1	dry		
158-21.0	E. Grassy Hammock	7/20/2011	8	wet		

Shaded cells indicate an exceedance of water quality criteria

*Indicates geometric mean and 90% less than values used to calculate the percent reduction

Wet and dry weather fecal coliform (colonies/100 mL) geometric mean values for all monitoring stations on Segment 6: LIS WB-Midshore - Norwalk Islands (CT-W3_008-I)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
103-05.2	N. of Sheffield dock	2000 – 2011	38	20	2	2	2
103-08.1	between Tavern Island and Cedar Hammock	2000 – 2011	36	19	4	5	2
103-09.0	R"2"/C"3" channel	2000 – 2011	40	20	3	3	2
103-09.1	W. Dog Island	2000 – 2011	38	20	3	3	2
103-10.0	R"4"/C"5" channel	2000 – 2011	39	20	3	4	2
103-11.0	NW Chimon Island	2000 – 2011	38	19	5	6	3
103-11.1	S. Raymond Rocks	2000 – 2011	39	19	5	7	2
103-11.2	between Shea and Chimon Island	2000 – 2011	37	18	3	3	2
103-12.0	between Sheffield and Copps Island	2000 – 2011	48	28	3	3	2
103-12.1	S. Shea Is/E. end Sheffield Island	2000 – 2011	48	27	2	2	2
103-14.0	between Betts and Grassy Island	2000 – 2011	38	19	4	5	2
103-15.0	Grassy Hammock	2000 – 2011	39	19	5	7	3
103-15.1	N. C"9" / W. Grassy Hammock	2000 – 2011	35	15	5	8	2
103-15.3	C"1" NE Raymond Rocks	2000 – 2011	36	16	7	10	3
103-15.5	SW Calf Pasture Island	2000 – 2011	36	14	6	8	2
158-02.0	G"5" near Pecks Ledge	2000-2011	38	22	3	4	2
158-02.1	N. Pecks Ledge	2000-2010	35	19	3	5	2
158-02.2	SW Cockenoe Is. N"4"	2000-2010	46	29	3	4	3
158-04.0	SE Sprite Island	2000-2011	39	20	3	4	2
158-05.0	NW Cockenoe Island	2000-2011	39	19	3	3	2
158-06.0	Cockenoe Island Cove	2000-2011	37	18	4	4	2
158-14.1	N. side Goose Island	2000-2011	37	20	3	4	2
158-19.0	E. Sheep Rocks	2000-2011	41	19	3	3	2
158-20.0	W. Cockenoe Island	2000-2011	38	21	2	3	2
158-21.0	E. Grassy Hammock	2000-2011	39	20	4	5	3
Shaded cells indicate an exceedance of water quality criteria							

Table 19: Segment 7 LIS WB Inner Norwalk Harbor – Norwalk Harbor Bacteria Data**Waterbody ID:** CT-W1_012-SB**Characteristics:** Saltwater, Class SB, Commercial Shellfishing Harvesting, Recreation, Habitat for Marine Fish and other Aquatic Life and Wildlife, Industrial Water Supply, and Navigation**Impairment:** Commercial Shellfish Harvesting (fecal coliform bacteria)**Water Quality Criteria for Fecal coliform:**Geometric Mean: 88 colonies/100 ml
90% of Samples Less Than: 260 colonies/100 ml**Percent reduction to meet TMDL:**Geometric Mean: NA
90% of Samples Less Than: NA

Data: DA/BA sampling efforts, 2014 TMDL cycle. Single sample fecal coliform data (colonies/100mL) for three monitoring stations on Segment 7: LIS WB Inner Norwalk Harbor (CT-W1_012-SB) with annual geometric means and reduction goals for samples. Rainfall data listed in the table below as reported in Purchase, NY by Wunderground.com.

Station Name	Station Location	Date	Results	Wet/Dry	Geomean	Reduction of Exceeding Samples
103-10.2	Norwalk Harbor	1/31/12	1	Dry	2.33	
103-10.2	Norwalk Harbor	2/28/12	1	Dry		
103-10.2	Norwalk Harbor	3/5/12	1	Dry		
103-10.2	Norwalk Harbor	5/2/12	2	Wet		
103-10.2	Norwalk Harbor	6/4/12	27	Wet		
103-10.2	Norwalk Harbor	11/28/12	3	Dry		
103-10.2	Norwalk Harbor	4/15/13	2	Dry	1.82	NA
103-10.2	Norwalk Harbor	5/15/13	1	Dry		
103-10.2	Norwalk Harbor	6/5/13	3	Dry		
103-10.2	Norwalk Harbor	1/14/14	14	Wet	3.06	NA
103-10.2	Norwalk Harbor	3/24/14	1	Dry		
103-10.2	Norwalk Harbor	4/3/14	2	Dry		
103-10.2	Norwalk Harbor	4/9/14	1	Dry		

Station Name	Station Location	Date	Results	Wet/Dry	Geomean	Reduction of Exceeding Samples
103-10.2	Norwalk Harbor	5/20/14	15	Dry		
103-10.2	Norwalk Harbor	7/7/14	1	Dry		
103-10.2	Norwalk Harbor	11/3/14	6	Dry		
103-10.3	Norwalk Harbor	1/31/12	1	Dry	3.33	NA
103-10.3	Norwalk Harbor	2/28/12	4	Dry		
103-10.3	Norwalk Harbor	3/5/12	1	Dry		
103-10.3	Norwalk Harbor	5/2/12	2	Wet		
103-10.3	Norwalk Harbor	6/4/12	51	Wet		
103-10.3	Norwalk Harbor	2/19/13	1	Dry	2	NA
103-10.3	Norwalk Harbor	4/15/13	4	Dry		
103-10.3	Norwalk Harbor	1/14/14	50	Wet	8.27	NA
103-10.3	Norwalk Harbor	3/24/14	2	Dry		
103-10.3	Norwalk Harbor	4/3/14	14	Dry		
103-10.3	Norwalk Harbor	4/9/14	5	Dry		
103-10.3	Norwalk Harbor	5/20/14	14	Dry		
103-10.3	Norwalk Harbor	6/3/14	4	Dry		
103-10.3	Norwalk Harbor	7/7/14	14	Dry		
103-10.3	Norwalk Harbor	11/3/14	4	Dry		
103-10.8	Norwalk Harbor	1/31/12	2	Dry	2.05	NA
103-10.8	Norwalk Harbor	2/28/12	1	Dry		
103-10.8	Norwalk Harbor	3/5/12	1	Dry		
103-10.8	Norwalk Harbor	5/2/12	1	Wet		
103-10.8	Norwalk Harbor	6/4/12	18	Wet		
103-10.8	Norwalk Harbor	2/19/13	1	Dry	1	NA
103-10.8	Norwalk Harbor	4/15/13	1	Dry		
103-10.8	Norwalk Harbor	1/14/14	44	Wet	4.61	NA

Station Name	Station Location	Date	Results	Wet/Dry	Geomean	Reduction of Exceeding Samples
103-10.8	Norwalk Harbor	3/24/14	1	Dry		
103-10.8	Norwalk Harbor	4/3/14	8	Dry		
103-10.8	Norwalk Harbor	4/9/14	1	Dry		
103-10.8	Norwalk Harbor	5/20/14	8	Dry		
103-10.8	Norwalk Harbor	6/3/14	4	Dry		
103-10.8	Norwalk Harbor	7/7/14	6	Dry		
103-10.8	Norwalk Harbor	11/3/14	3	Dry		

Wet and dry weather fecal coliform (colonies/100 mL) geometric mean values for all monitoring stations on Segment 7: LIS WB Inner Norwalk Harbor (CT-W1_012-SB)

Station Name	Station Location	Years Sampled	Number of Samples		Geometric Mean		
			Wet	Dry	All	Wet	Dry
103-10.2	Norwalk Harbor	2012-2014	3	13	2.5	9.11	1.86
103-10.3	Norwalk Harbor	2012-2014	3	12	5.1	17.21	3.70
103-10.8	Norwalk Harbor	2012-2014	3	12	2.9	9.25	2.14
Shaded cells indicate an exceedance of water quality criteria							

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DOCUMENT REVISION HISTORY: ESTUARY 1-NORWALK TMDL

February 2019 Revision: Segment 7 LIS WB Inner Norwalk Harbor (CT-W1_012-SB) was added to the TMDL along with Connecticut Department of Agriculture/Bureau of Aquaculture fecal coliform data from Stations 103–10.2, 103–10.3, 103–10.8 listed in Table 19.

Fecal coliform data shows this area is meeting the bacteria requirements for shellfishing however, there is an administrative closure to shellfishing due to the presence of a Combined Sewer Overflow. This permitted and treated combination of stormwater and domestic sewage is located at the South Smith Street Waste Water Treatment Plant. All wet weather flows over 30 MGD receive full preliminary treatment, screening and grit removal as well as micro drum screening and chlorination.

The 2012 maps and the tables in this document were updated to reflect any changes and the addition of Segment 7.

There were a few typos in the original TMDL and I updated website information and DEEP program information where necessary and updated monitoring data where available.

Date	Segments covered: impaired designated use
September 2012	CT-W1_013-SB: Recreation CT-W2_011: Shellfishing CT-W2_012: Shellfishing CT-W2_013: Shellfishing CT-W2_014: Shellfishing CT-W3_008-I: Shellfishing
February 2019	<u>ADDED</u> CT-W1_012-SB: Shellfishing Remain the same: CT-W1_013-SB: Recreation CT-W2_011: Shellfishing CT-W2_012: Shellfishing CT-W2_013: Shellfishing CT-W2_014: Shellfishing CT-W3_008-I: Shellfishing